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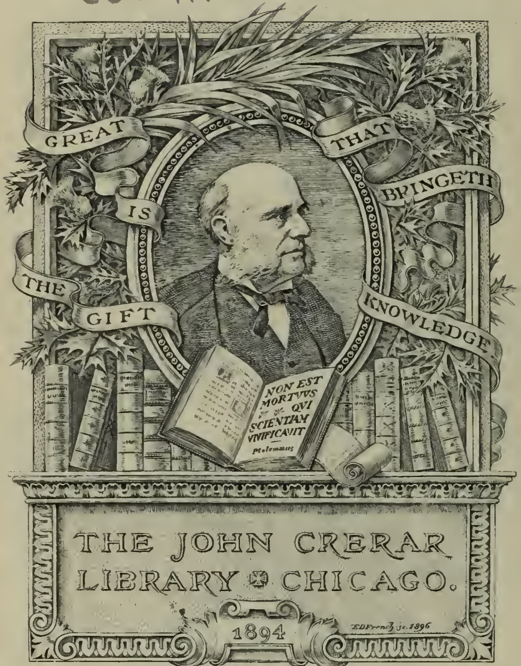
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Colorado Agricultural College Bulletin

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1917-1918

FORT COLLINS
COLORADO

SERIES XVII NO 3

MARCH, 1917

Withdrawn

"I, a wandering student, seeking knowledge, came knocking at the gates of the Colorado Agricultural College, and it took me in," helped me to become an efficient workman, "filled me with inspiration, and when I left its doors, the kindly people of the state stretched out welcoming hands and gave me a man's work to do."

Mount Ypsilon, in Estes Park

Thirty-eighth Annual Register of the
Officers and Students

OF THE

Colorado Agricultural College

Agriculture and Mechanic Arts
General Science *Home Economics*
Veterinary Medicine

PROSPECTUS FOR 1917-1918

FORT COLLINS, COLORADO

Series XVII. Number 3
Entered at the Post Office at Fort Collins, Colorado, as Second-Class Matter

1917 CALENDAR 1917

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Jan.	--	**1**	2	3	4	5	6
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	29	30	31	--	--	--	--
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Colorado Agricultural College

CALENDAR

Entrance Examination, Tuesday, September 4, 1917
Registration of Students, Tuesday, September 4, and Wednesday, September 5, 1917
First Semester begins, Thursday, September 6, 1917
Special Examinations for Removal of Conditions, October 27, 1917
Thanksgiving Recess, Thursday, November 29, and Friday, November 30, 1917
Christmas Vacation begins, Saturday, December 22, 1917
Christmas Vacation closes, Sunday, January 6, 1918
Farmers' and Housekeepers' Week, January 7-12, 1918
Farmers' Congress, January 7-12, 1918
First Semester closes, Saturday, January 12, 1918
Second semester begins, Monday, January 14, 1918
Washington's Birthday Exercises, Friday, February 22, 1918
Special Examinations for Removal of Conditions, March 23, 1918
Spring Vacation, March 31 to April 7, 1918
Examination for Battalion Officers for the ensuing year, Wednesday, May 1, 1918
College Day, Friday, May 10, 1918
May Day Festival, Saturday, May 11, 1918
Memorial Day, Thursday, May 30, 1918
Baccalaureate Sermon, 8 p. m., Sunday, June 2, 1918
Commencement Exercises of Literary Societies, 8 p. m., Monday June 3, 1918
Junior Class Day Exercises, 8 p. m., Tuesday, June 4, 1918
State Board of Agriculture meets Wednesday, June 5, 1918
Senior Class Exercises, Wednesday, June 5, 1918
Commencement Exercises, Thursday, June 6, 1918
Second Semester closes, Thursday, June 6, 1918

First Semester (1918-1919) begins September 5, 1918
Summer School opens June 18, 1917
Summer School closes July 28, 1917

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How to Use the Catalog

Plan of the Catalog.—The catalog is divided into four parts. The first part, pages 1 to 42, is general in character, taking up in the order named, Calendar, How to Use the Catalog, and Index, pages 6 to 13; State Board of Agriculture and Faculty, pages 13 to 19; Mission of the Agricultural College, pages 17 to 21; Campus Buildings and Equipment, pages 20 to 33; Courses of Study, Entrance Requirements, and Accredited High Schools, pages 33 to 35; Requirements for Graduation, Special Courses, Advanced Standing of Students from other Colleges, pages 35 to 38; Registration, Tuition, Expenses, etc., pages 38 to 42.

The second part, pages 42 to 65, deals with the schedules of the four divisions of work; the **Division of Agriculture**, which includes courses in Agronomy, Animal Husbandry, Entomology, Forestry, and Horticulture, pages 42 to 52; the **Division of General Science**, page 52; the **Division of Home Economics**, pages 54 to 55; the **Division of Mechanic Arts**, which includes Civil and Irrigation Engineering, Electrical Engineering, and Mechanical Engineering, pages 56 to 61; the **Division of Veterinary Medicine**, pages 62, 63, and the Apprenticeship Course for Extension Workers, page 64. The first two years of all the courses in each division are alike, so they are given but once; but the junior and senior years are different in each course, as Agronomy, page 44, Horticulture, page 50.

The third part takes up, alphabetically, the nineteen departments of the college, and the work taught in each department. The subjects taught are arranged consecutively by numbers, commencing on page 65 with subjects in Agronomy, numbers 1 to 50, and ending with Veterinary Medicine, courses 850 to 896, page 127.

The fourth part takes up the Conservatory of Music, pages 132 to 137; the College Organizations, pages 138 to 144; College Publications, pages 144, 145; Agricultural Extension Service, pages 146 to 149; the Experiment Station, pages 149 to 150; Register of Students, pages 151 to 167.

How to Find a Given Topic.—Suppose you want to know what is offered in Agriculture, turn to the index and you will find Agriculture, Division of, is described on page 42. On 43, is given the course of study for first two years. You look over the list and want to know about the work in algebra. The number to the right states the number of credits toward graduation, given for the subject. The number to the left, 602, means that in the third part of the catalogue, beginning page 65, Algebra is the 602nd subject. Again you want to know about Zoology. It is number 352, or the 352nd subject from page 65. In like manner any subject may be found, either by index reference or by number.

Directions for the New Student

I. If possible, send your credentials from high school before college opens. It will save you time and trouble.

II. Students who have less than fourteen high school credit units cannot enter the college. Graduates of the eighth grade, who wish secondary work in Agriculture, Mechanic Arts, or Home Economics, may enter the Colorado School of Agriculture, which is maintained in connection with the college.

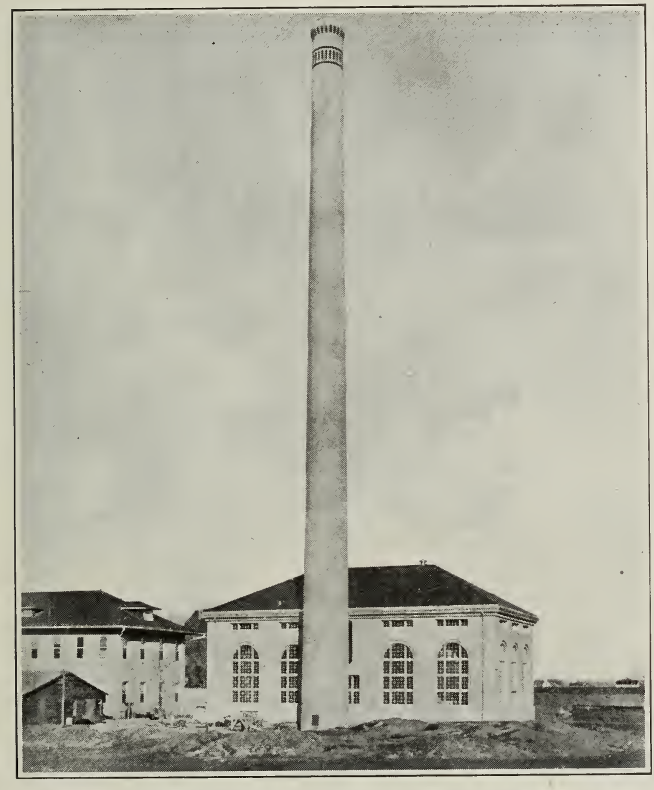
III. Inquiries either to the President or the Dean, concerning board, room, expenses, etc., will be promptly answered. It is the aim of the college to give you just as complete information as possible.

IV. When you arrive on the campus, if you are not met by a member of the reception committee, report to the Dean's office in the Main building.

V. An additional fee of $2.00 is charged for late registration. (See Calendar.)

VI. Attendance in classes is required from the date of the first scheduled recitation. Work missed, if the absence is excused, must be made up. Unexcused absences count zero in grading.

VII. After the student's registration is completed, the schedule cannot be changed, except by permission of the Dean.



Smoke Stack of Central Heating Plant

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Class in Irrigation Engineering

The State Board of Agriculture

THE STATE BOARD OF AGRICULTURE

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A. A. EDWARDS H. D. PARKER E. M. AMMONS

FUNCTIONS OF THE BOARD

The State Board of Agriculture was created by the General Assembly in 1879. It consists of eight members appointed by the governor of the state, the governor of the state, and the president of the State Agricultural College, who are members, ex-officio. The governor, by and with consent of the senate, on or before the third Wednesday of January of each biennial session of the general assembly, appoints two members of the board to fill the vacancies that next occur, to serve for a term of eight years.

Originally, the board was created to have general control and supervision of the State Agricultural College, and of the lands which may be vested in the college by the general assembly of the state or by the national congress, and of all appropriations made by the state, and by the national government, for the support of the institution.

The duties of the board have, from time to time, been increased by the general assembly; not only does it now act as the board of control of the State Agricultural College and the Agricultural Experiment Station and of the secondary school of agriculture, maintained at the college, the so-called Colorado School of Agriculture, but the Eighteenth General Assembly also made it the board of control of the secondary schools of agriculture at Fort Lewis, near Durango, and at Grand Junction, on properties, formerly Indian schools, that were turned over to the State of Colorado by Act of Congress, March 3, 1909. The Seventeenth General Assembly created the State Fair Board, consisting jointly of the State Board of Agriculture and the State Board of Horticulture; and the Eighteenth General Assembly gave to the State Board of Agriculture the powers of a State Board of Forestry, and the Nineteenth General Assembly repealed the laws pertaining to the State Board of Horticulture and vested all the powers of this board in the State Board of Agriculture.

Officers of Administration, and the Faculty*†

CHAS. A. LORY, M.S., LL.D. (University of Colorado), D.Sc. (University of Denver), President — Residence, Campus

S. ARTHUR JOHNSON, B.S., M.S. (Rutgers'), Associate Professor of Zoology and Entomology, and Dean of the Faculty — 612 Elizabeth Street

VIRGINIA H. CORBETT, B.L., M.Ph. (Iowa State College), Ph.B. (University of Chicago), Associate Professor of History and English, and Dean of Women — 426 Garfield Street

CLARENCE P. GILLETTE, B.S., M.S. (Michigan Agricultural College), Professor of Zoology and Entomology, and Director of the Experiment Station — 620 Elizabeth Street

H. T. FRENCH, M.S. (Michigan Agricultural College), Director of the Extension Service — Shadeland, Elizabeth Street

T. M. NETHERTON, A.B., A.M. (William Jewell College; University of Chicago), Principal of School of Agriculture — 715 Peterson Street

L. M. TAYLOR, Secretary of the State Board of Agriculture and of the Faculty, and Purchasing Agent — 304 E. Myrtle Street

‡JAMES W. LAWRENCE, M.E. (Colorado Agricultural College), Professor of Mechanical Engineering — 206 W. Myrtle Street

WILLIAM P. HEADDEN, A.M. (Dickinson College), Ph.D. (Giessen), Professor of Chemistry and Geology, and Chemist to the Experiment Station — 120 W. Magnolia Street

EDWARD B. HOUSE, B.S. (University of Michigan), M.S. (Colorado Agricultural College), Professor of Civil and Irrigation Engineering — 804 Elizabeth Street

GEORGE H. GLOVER, B.S., M.S. (Colorado Agricultural College), D.V.M. (Iowa State College), Chairman of the Division of Veterinary Medicine — 608 S. Howes Street

B. F. COEN, B.L. (University of Wisconsin), Head of the Department of English and History, and Professor of English — 105 Garfield Street

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BURTON O. LONGYEAR, B.S. (Michigan Agricultural College), Associate Professor of Forestry — 628 Elizabeth Street

I. E. NEWSOM, B. S. (Colorado Agricultural College), D.V.S. (San Francisco Veterinary College and Kansas City Veterinary College), Professor of Veterinary Pathology — 412 W. Magnolia Street

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ALVIN KEZER, B.S., A.M. (University of Nebraska), Chairman of Division of Agriculture, Professor of Agronomy, and Farm Manager — Garfield and Stover Streets

FRED G. PERSON, A.B., A.M. (University of Colorado), Head of Departments of Physics and Electrical Engineering, and Professor of Physics — 618 Remington Street

INGA M. K. ALLISON, E.B. (University of Chicago), Professor in Home Economics — 123 W. Magnolia Street

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*See page 18 for Extension Service Staff.

†See page 17 for Experiment Station Staff.

‡On leave of absence 1916-1917.

CAREY E. VAIL, B.S. (Nebraska Wesleyan), A. M. (University of Nebraska), Associate Professor of Chemistry 644 S. Meldrum Street

CHARLOTTE A. BAKER (State Normal College, Albany, N. Y.), Librarian 600 Remington Street

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WALTER J. MORRILL, B.S. (University of Maine), M.F. (Yale), Professor of Forestry, and State Forester 327 Remington Street

*JOSEPH A. ROGERS, First Lieutenant U. S. A., Professor of Military Science and Tactics 731 W. Olive Street

H. W. HUGHES (University of Oklahoma), Professor of Physical Training 1020 S. College Avenue

ALFRED R. WESTFALL, B.A., M.A. (Park College), Assistant Professor of English and Psychology, and Coach of Debating 608 S. Meldrum Street

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LIEUT. THOMAS J. J. CHRISTIAN, U. S. Cavalry, Professor of Military Science and Tactics

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BRADLEY, R. A., Assistant in Shop Work 301 Whedbee Street

BURNETT, WILLIAM L., Curator of the Museum 203 W. Myrtle Street

COFFIN, ROY G., B.S. (Colorado Agricultural College), Instructor in Chemistry 621 Locust Street

COPELAND, J. T., B.S.A. (Purdue University), Instructor in Farm Mechanics 115 W. Mulberry Street

CROSMAN, RALPH L., Editor of Publications 225 W. Mulberry Street

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DIXON, BERYL, B.S. (Colorado Agricultural College), Assistant in Home Economics 223 W. Mulberry Street

*FOLTZ, L. S., B.S. in E.E. (University of Illinois), Instructor in Physics and Electrical Engineering

GOODACRE, H., Florist and Instructor in Horticulture 223 Plum Street

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HAYNES, MIRIAM M., B.S. (Colorado Agricultural College), Extension Specialist in Home Economics 320 W. Myrtle Street

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LAYMAN, EDWINA MARY (Chicago Normal School of Physical Education), Assistant Director of Physical Training in charge of Physical Training for Women 331 Remington Street

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ROBINSON, P. G., B.S. (University of Chicago), Instructor in Mathematics 300 Elizabeth Street

ROSS, S. I., B.S., M.E. (Oklahoma Agricultural and Mechanical College), Instructor in Mechanical Engineering and Draftsman for Building Superintendent 405 E. Laurel Street

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*On leave of absence 1916-1917.

SCHOTT, H. A. (Stout Manual Training Institute, Menomonie, Wis.), Instructor in Forge 225 W. Mulberry Street

SEAMANS, HERBERT L., A.B. (Fairmount College), Y. M. C. A. Secretary 301 Plum Street

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TODD, ETHEL F., A.B. (Oberlin College), Instructor in English 301 Plum Street

VASEY, HARVEY E., B.S., A.M. (University of Nebraska), Instructor in Botany 704 Remington Street

WASEL, W. T., B.S.A. (University of Missouri), Instructor in Animal Husbandry 708 S. College Avenue

WILSON, H. J., Instructor in Carpentry 421 E. Laurel Street

WILSON, MARYETTA, B.S. in Home Economics (Colorado Agricultural College), Instructor in Home Economics 1022 S. College Avenue

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THE AGRICULTURAL EXPERIMENT STATION STAFF

OFFICERS

CHARLES A. LORY, M.S., LL.D., D.Sc	President
C. P. GILLETTE, M.S	Director
L. M. TAYLOR	Secretary
MABEL LEWIS	Executive Clerk

HEADS OF SECTIONS

C. P. GILLETTE, M.S., Director	Entomologist
WM. P. HEADDEN, A.M., Ph.D	Chemist
G. H. GLOVER, M.S., D.V.M	Veterinarian
WALTER G. SACKETT, S.B	Bacteriologist
ALVIN KEZER, A.M	Agronomist
W. W. ROBBINS, M.S	Botanist
GEO. E. MORTON, M.L., B.S.A	Animal Husbandman
E. B. HOUSE, B.S (E.E.), M.S	Irrigation Engineer
E. P. SANDSTEN, Ph.D	Horticulturist
W. H. KERR, M.S	Markets and Marketing

SPECIALISTS AND ASSISTANTS

J. W. ADAMS, B.S., Cheyenne Wells	Agronomy Assistant, Dry Land Investigations
JAMES D. BELL, B.S	Assistant Irrigation Investigations
P. K. BLINN, B.S., Rocky Ford	Alfalfa Investigations
CHAS. I. BRAY, B.S.A., M.S	Assistant in Animal Husbandry
BREEZE BOYACK, M.S	Assistant in Agronomy
L. C. BRAGG	Assistant in Entomology
V. M. CONE, B.S. (C.E.)	In charge of Irrigation Investigations
EARL DOUGLASS, M.S	Assistant Chemist
S. ARTHUR JOHNSON, M.S	Assistant in Entomology
CHARLES R. JONES, M.S	Assistant in Entomology
GEORGE M. LIST, B.S	Assistant in Entomology
WILLIAM P. LITTLE, B.S	U. S. Expert-in-Charge Horse Breeding
B. O. LONGYEAR, B.S	Assistant Forester
R. A. McGINTY, B.S	Assistant in Horticulture
I. E. NEWSOM, B.S., D.V.S	Veterinary Pathologist
MIRIAM A. PALMER, M.A	Illustrator
RALPH L. PARSHALL, B.S	Assistant in Irrigation Investigations
CARL ROHWER, B.S., C.E	Assistant in Irrigation Investigations
ROBERT E. TRIMBLE, B.S	Assistant Irrigation Investigations
RALPH L. CROSMAN	Editor
*T. F. LIMBOCKER, B.S	Assistant in Horticulture
T. E. LEIPER, B.S	Assistant in Animal Husbandry

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*Resigned.

EXTENSION SERVICE

Staff

H. T. FRENCH, M.S.	Director of Extension Service
A. E. LOVETT, B.S.	State Leader of Boys' and Girls' Club Work
W. E. VAPLON	State Leader of Boys' and Girls' Club Work
W. E. FOARD, B.S.A.	Specialist in Farm Management
MIRIAM HAYNES, B.S.	Specialist in Home Economics
R. W. CLARK, B.S.	Specialist in Animal Husbandry
W. H. KERR, A.B., J.D.	Specialist in Markets and Marketing
MAUDE E. SHERIDAN, Pd.M.	Assistant State Leader Boys' and Girls' Clubs
RALPH L. CROSMAN	Editor of Publications

COUNTY AGRICULTURAL AGENTS

GEO. C. BURCKHALTER, B.S.	County Agricultural Agent, Logan County, Sterling
PAUL N. FLINT, M.S.	County Agricultural Agent, Kit Carson County, Stratton
W. H. LAUCK	County Agricultural Agent, El Paso County, Colorado Springs
C. G. McCORD, B. A.	County Agricultural Agent, Morgan County, Ft. Morgan
S. V. SMITH, B.S.	County Agricultural Agent, Pueblo County, Pueblo
H. H. SIMPSON, B.S.A.	County Agricultural Agent, Boulder County, Longmont
E. D. SMITH	County Agricultural Agent, La Plata and Montezuma Counties, Durango
GEO. R. SMITH, B.S.	County Agricultural Agent, Adams County, Brighton
E. H. THOMAS, B.S.	County Agricultural Agent, Rio Grande County, Monte Vista
CHAS. E. SMITH, B.S., M.A.	County Agricultural Agent, Las Animas County, Trinidad
RODNEY C. ALLRED, B.S.	County Agricultural Agent, Garfield County, Glenwood Springs
RALPH R. JEFFRIES, B.S.	County Agricultural Agent, Fremont County, Canon City

CONSERVATORY OF MUSIC AND SCHOOL OF ORATORY

ALEXANDER EMSLIE, Director (Boston Conservatory of Music, Charles R. Adams, Boston)	Voice Culture, Opera, Oratorio and Chorus Director
HOWARD S. REYNOLDS (New England Conservatory of Music)	Instructor in Violin, Harmony, Counterpoint, Composition, and Orchestra Director
MRS. ALEXANDER EMSLIE (Simpson Conservatory of Music)	Instructor in Piano and History of Music
CLIFFORD S. DUNHAM (Iowa State Teachers College)	Instructor in Voice
GEORGE E. TOOMEY (Cummock School of Oratory, Northwestern University)	Instructor in Oratory and Public Speaking
MISS MINNIE SWEITZER	Assistant in Piano
MRS. ALICE D. ROOT	Instructor in Public School Music
MISS OPAL GEVREZ	Assistant in Piano
MISS LUCY FRIEND	Accompanist to the Director
BENNET W. FOLTZ	Instructor in Cornet
W. E. RUNGE	Instructor in Clarinet and Leader of Military Band

On the Campus

FACULTY COMMITTEES

Executive

S. Arthur Johnson
L. D. Crain
George H. Glover
B. F. Coen
S. L. Macdonald
T. M. Netherton
Alvin Kezer
Virginia H. Corbett
Inga M. K. Allison
Margaret Durward

Social

Virginia H. Corbett
W. W. Robbins
I. E. Newsom
Charlotte E. Carpenter
T. M. Netherton

Catalog

B. F. Coen
O. S. Rayner
H. E. Kingman
Harriet Shipley
Ralph L. Crosman
Sarah I. Kettle

Physical Training

S. L. Macdonald
Albert Cammack
H. W. Hughes
James D. Marshall
Edwina Layman

Advanced Degrees

Wm. P. Headden
L. D. Crain
Alvin Kezer
Inga M. K. Allison
I. E. Newsom

Efficiency in Instruction

S L. Macdonald
W. W. Robbins
Margaret Durward
S. Arthur Johnson
G. E. Morton

Operating Efficiency

Alvin Kezer
George H. Glover
Inga M. K. Allison
L. D. Crain

Class Proctors

Freshman
B. F. Coen

Junior
Fred G. Person

Sophomore
Margaret E. Durward

Senior
George E. Morton

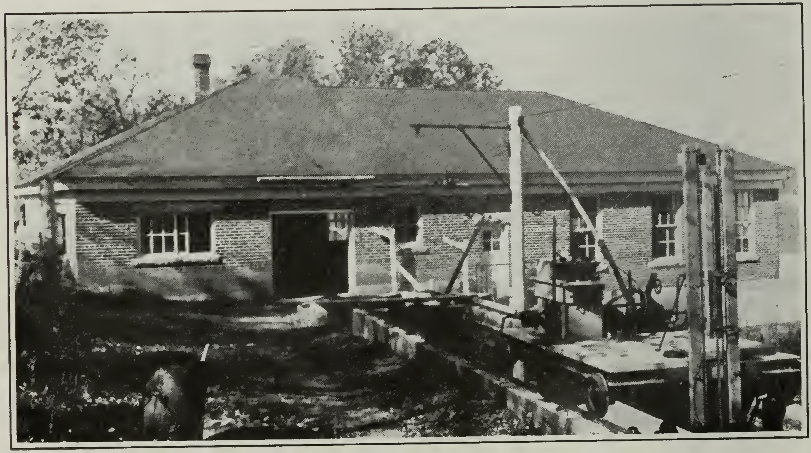
A Campus Walk

The Mission of the Agricultural College

The mission of the Agricultural College as defined by the congressional act which called it into being is "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This class of educational institutions had its origin in the provisions of an act of congress, approved July 2, 1862, and popularly known as the "First Morrill Bill"; and for its establishment and maintenance in each state which availed itself of the provisions of the law, a donation of 30,000 acres of land for each senator and representative in Congress was made, Colorado receiving 90,000 acres. The sales of this land, and the revenue therefrom, constitute a permanent endowment fund.

In 1890, Senator Morrill, of Vermont, secured the passage of a second act, known as the "Second Morrill Bill," appropriating a maximum of $25,000 (the Morrill fund) annually for the support and maintenance of these colleges, which act was amended so that the maximum sum would be $50,000 a year. This maximum was reached in 1911. This act also made certain provisions as to the line of studies for which this money might be expended, enacting that it should be used "only for instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic sciences." This act has been construed by the National Commissioner of Education, in a circular approved by the Secretary of the Interior, and prescribes the studies which these colleges may teach in order to avail themselves of the benefits of the law.

By acts approved January 27, 1879, and April 6, 1891, the general assembly of Colorado gave "full and complete acceptance, ratification and assent" to "all of the provisions, terms, grants, and conditions and purposes" of these congressional acts, thus creating a perpetual contract



Hydraulic Laboratory of the Experiment Station between the state of Colorado and the government of the United States under the terms of which, in consideration of the grant of 90,000 acres of land for the creation of an endowment fund, and the payment of the Morrill fund annually, the state bound itself to maintain an institution at which instruction should be given in military tactics, agriculture, mechanical arts, the English language, economics, and the various branches of mathematical, physical, and natural science.

The requirements of this contract, both in letter and spirit, are being faithfully observed, and the duties it imposes are being fully performed by the State Agricultural College.

Experiment Station.—The colleges established under the Morrill bill were soon confronted by the necessity of doing experimental work and original research in agriculture, to supplement and extend the agricultural knowledge of the times. This need was recognized by congress and was met by the establishment of the experiment stations in an act approved March 2, 1887, generally known as the Hatch Act. This act appropriated $15,000 annually—the Hatch fund—(no part of which could be expended for instruction) for research, investigation, and experiment along the lines of agriculture, horticulture, and animal husbandry, and in the arid states the water problems which arise out of their systems of irrigation. The results of these investigations and of the practical experiments made are published in the station bulletins issued from time to time as the investigations are completed. The bulletins that have been issued from this station cover a wide range of industrial topics, and are among the valuable contributions that have been made to the science of agriculture.

In 1906, Congress supplemented this "Hatch fund" of $15,000 a year by another, which has become known as the "Adams fund." In accordance with the provisions of the law, the experiment station received $5,000 in 1906, and was to receive a sum increased by $2,000 each year until the total reached $15,000 annually. This money is exclusively for the work of original research, and the restrictions placed about its use are both narrow and severe.

It is well, perhaps, that this is so, since the results of the careful and intelligent expenditure of this sum—$30,000—by every experiment station in the land promises the elevation of agriculture to its true place among the great industrial sciences, and to reveal and determine for the stockman, farmer, and the fruit grower, many facts and problems which will have an important bearing upon all future products of the soil.

Extension Service.—An important function of the Agricultural College is the instruction of people scattered all over the state, who are unable to come to the college. The demand for this work during the last few years has been far greater than the ability of the college to meet, on account of lack of funds. This work is now organized under a co-operative arrangement with the United States Department of Agriculture. Under this agreement, the college receives certain federal funds for the promotion of county agent work and boys' and girls' club work. Also under the provisions of the Smith-Lever Act of Congress, the college receives $10,000 annually for extension service. By the provision of this act, this appropriation, in Colorado, will be increased by the following amounts

Delegates to the 1917 Session of the Farmers' Congress

annually, the state meeting the increase dollar for dollar thru a continuous first class appropriation: 1916-17, $8,789; 1917-18, $12,784; 1918-19, $16,779; 1919-20, $20,774; 1920-21,$24,769; 1921-22, $28,764; 1922-23, $32,759.

The beneficial effects of this extension work are already felt and are generally acknowledged in Colorado. To the practical information imparted through the county agricultural agents, the timely hints given, the valuable suggestions made by the workers of the Agricultural College at institutes and short courses, many individuals and some whole communities owe improved methods and more prosperous conditions.

Functions and Income.—These, then, are the three functions of the State Agricultural College: Education, experimental work and original research, and the extension of the knowledge thus gained to the homes of the people. To enable the college to fulfill its mission, the national government contributes the Morrill fund in addition to the permanent land grant funds for educational work, while the state provides an income by a levy of .102336 of a mill on the assessed valuation, $1,225,000,000, and legislative appropriations are made for specially designated purposes.

For extension work, a special appropriation is made by the state legislature, and by the federal government.

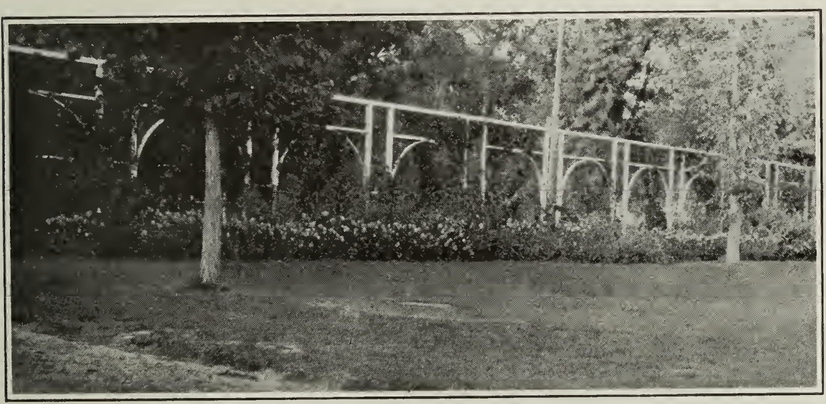
CAMPUS

Standing upon the campus of the Colorado Agricultural College, the visitor is readily impressed with the spirit and purpose of the institution as he gazes with delight upon the scenes by which he is surrounded. Near at hand are the main administration building, in whose various additions may be read the growth of the college and its need for more room; the chemical, the electrical, the home economics, and the horticultural build-

"The College Family" Witnessing an Out-door Senior Play

ings, the library, and the mechanical engineering building, whence comes the buzz of machinery, enlivened by a real anvil chorus.

To the south, across the Green and Gold, the women's athletic field, rises agricultural hall, to the west of which is the soils building and the residence of the president of the college; and in the southwest of the campus, towering above the trees, the barns with their pure-bred cattle, sheep, and swine. Nearby are the poultry yards and the cottage of the caretaker. Directly to the west, rise the white walls of the irrigation building, all the more perfectly outlined by the dark blue foothills which seem to rise directly behind. Just beyond stretches the highly cultivated college farm of 320 acres, while along the immediate base of the foothills is the great pasture field of 1,350 acres.



The Campus is a Bower of Blossoms in Summertime

Half a mile to the east of the campus, are the barns and paddocks of the Horse Breeding Station, where the United States Department of Agriculture and the Experiment Station are co-operating in the development of an American carriage horse.

Such is the campus and plant of the college, whose environs constitute one of the most beautiful and attractive agricultural landscape views to be found in the West—the highly cultivated prosperous valley of the Cache la Poudre, with its farms and gardens, its orchards, canals, and reservoirs, a region where agriculture by irrigation has reached its highest and most progressive development. No more commanding or appropriate location could have been chosen for an agricultural college.

BUILDINGS

Main College Building.—The largest building on the grounds. It contains offices of the President, Principal of the School of Agriculture, Secretary, Dean, Registrar, the Extension Service, Rural School Visitor, Physical Director, Commandant, and Young Men's Christian Association; offices and classrooms of the Departments of English and History, Mathematics, and Modern Languages; an auditorium with opera chairs for seating 900 persons, and an armory, 40x72 feet, a gymnasium, and a laboratory used by the Department of Physics.

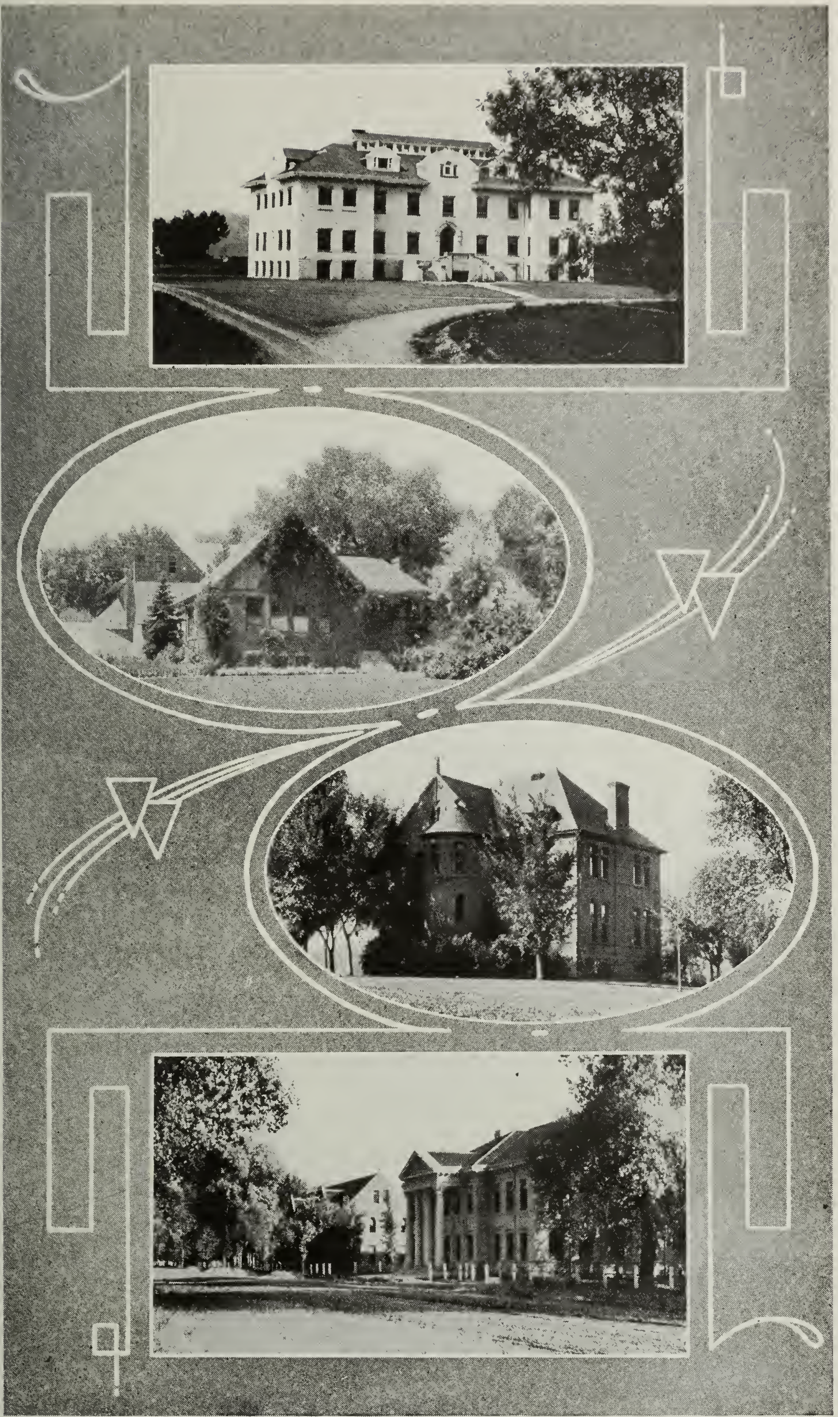
Chemical Building.—This building contains the office and private laboratory of the head professor; the offices of the associate professor, instructors, and assistants; three student laboratories with a total of 352 lockers, allowing 116 students to work at one time; a lecture room for chemistry, with which is connected a chemical museum; a lecture room for geology, which contains the geological museum; and the chemical laboratories of the Experiment Station.

Electrical Engineering Building.—A very serviceable building whose three floors provide offices, classrooms, and work rooms for instruction in physics and in electrical engineering.

Conservatory of Music.—This is a small but very attractive building with two floors, containing classrooms, offices, and a reception room.

The Hall of Household Arts.—This building, the gift of Senator Simon Guggenheim, is entirely occupied by the Department of Home Economics. The first floor is given over to offices, the food laboratories, dining room, locker room, and laundry. On the second floor are the offices of the Dean of Women and the Extension Representative in Home Economics, rest-room, headquarters of the Young Women's Christian Association, assembly room, sewing laboratories, and lecture rooms. The spacing and equipment provide adequately for individual work.

Horticultural Hall.—A well constructed and artistically designed building, with offices, classrooms, and laboratories for departments of horticulture and botany; and a well equipped laboratory for bacteriological research, that is being conducted under the Adams act.



Civil and Irrigation Engineering
Conservatory of Music Agricultural Hall
Guggenheim Hall of Household Arts

Mechanical Engineering Building.—One of the largest buildings on the grounds. It contains offices and classrooms for the various classes needed in a thorough course in mechanical engineering, a machine shop, well supplied with the tools and apparatus needed for instruction in large classes in all lines of machine work; a modern blacksmith shop, with 41 forges and other equipment; a foundry, with full equipment for thorough instruction work with iron, brass, and bronze; a bench and wood-working room, with 47 benches and full sets of tools, wood-working machinery, including power planers and lathes; and a department library of 1,000 volumes.

Mechanical Engineering Laboratory.—This laboratory is furnished with apparatus and machines to give advanced students an opportunity to make investigations of the materials used in constructing buildings and machinery, and to make tests of boilers, engines, pumps, motors, and other mechanical appliances. A special feature is an extensive equipment for investigations along the lines of steam engineering and compressed air.

Civil and Irrigation Building.—This building is one of the best on the campus, new and modern in every way. In the basement are found the irrigation and hydraulic laboratories with all the equipment for experimenting with flowing water, with pumps, meters, etc. The cement laboratory and photographic dark rooms are also on this floor. The floor above contains the experiment station offices, museum, and instrument room. On the second floor are the classrooms, departmental library, and offices of the professors of the department. The third floor is devoted to the draughting work. With its ceiling light, the blueprint apparatus, tables and filing cases, it makes an up-to-date room for this kind of work. The building cost $75,000, and it is said to be one of the best equipped buildings in the United States for teaching irrigation.

Agricultural Hall.—An attractive building, with three working floors, containing offices, classrooms and libraries for the departments of agronomy and animal husbandry, and for the poultryman, and a large room well equipped for instruction in farm dairying.

A Favorite Walk

Judging Pavilion.—Two classrooms, with side and overhead lighting, for instruction in judging horses, cattle, hogs, sheep, and poultry. This building was planned after a study of all the better buildings of its class in the United States, and is exceptionally well adapted for the work.

Greenhouses.—These are four in number, and are modern steel and concrete construction. They are connected with the Horticultural Hall, and convenient for instruction. Three of the greenhouses are for the use of classes in floriculture, plant propagation, and forcing vegetables. The plant is strictly modern in every detail, and embraces the latest and best features in greenhouse construction.

Veterinary Buildings.—The main offices of the Division of Veterinary Medicine are located in the Civil and Irrigation Engineering building as are also the pathology museum, and two classrooms. A group of five buildings facing on Laurel street furnishes accommodations for hospital, pathology laboratory, pharmacy laboratory, dissecting room, small animal ward, classrooms, offices, etc.

Farm Buildings.—The college has large and well-planned barns for breeding horses, work horses, and dairy cattle; sheds for fattening cattle, a sheep barn, a large piggery, and several styles of individual hog houses; a plant for fattening 100 hogs at a time, a large farm machinery shed, farm blacksmith shop, a number of model poultry houses, and an incubator room.

Farm Mechanics.—This building is devoted to classrooms and laboratories for instruction in operating, repairing, setting up, adjusting, and testing farm machinery, and steam traction and gasoline engines. The equipment is valued at $15,000.

Library.—For a description of this building, see page 102.

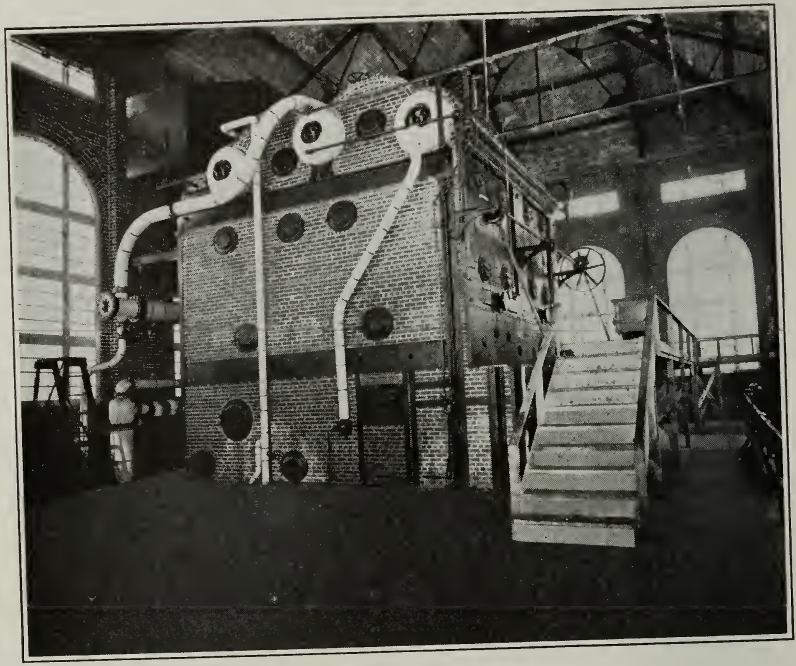
Zoology Building.—A two-story structure of white stone, providing classrooms, laboratories, and offices for instruction and investigation in entomology and other branches of biology; a museum, and an insectary.

Hydraulic Laboratory.—A special laboratory designed for advanced studies in water measurement, flow through conduits, etc., and used in co-operation with the "Irrigation Investigation" Office of Experiment Stations U. S. Department of Agriculture.

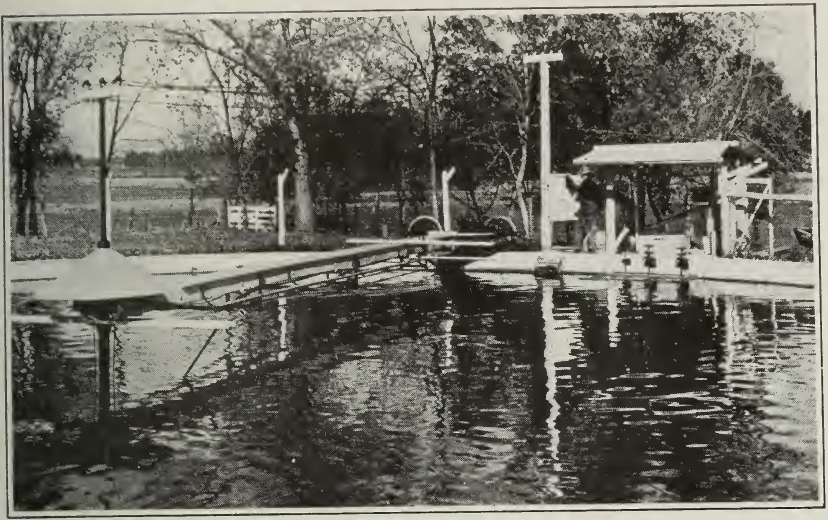
Home of the President

Soils Building.—This building is a two-story structure of brick. The second floor provides two large classrooms which are well lighted and ventilated. On the ground floor is the Soils Laboratory, which is very modern in structure and arrangements and is ideally suited to the study of the physical properties of soils and their relation to crop production. The working capacity of the laboratory is fifty-six students at the same period.

Central Heating Plant.—The new building used for this purpose is of concrete, brick and steel construction, and is practically fireproof, there being no wood used except in the window and door frames. Upon the ground floor are the boilers and coal bunkers. The boilers are the very latest design of Sterling Water Tube boilers, each of 234 horsepower and equipped with automatic stoker. In the basement are the pumps and receivers which take the return water from the steam heating system and pump it back into the boilers. From the basement two tunnels lead off to all the different buildings on the campus. The boilers, coal handling machinery, pumps and other equipment were designed so that tests of each part of the plant as a whole may be easily made by the students in mechanical and electrical engineering.



Interior of the Heating Plant—An Admirable, Practical Laboratory for Mechanical Engineering Students



Experiment Station Laboratory Where Water Meters Are Rated

EQUIPMENT

The equipment of the college is such as is needed to give thorough instruction in agonomy; animal husbandry; horticulture; entomology; forestry; civil, irrigation, electrical, and mechanical engineering; home economics; general science; and veterinary medicine.

The value of the apparatus, instruments, machines, books, and live stock exceeds $150,000.

Geological Museum.—The material is unusually complete, representing all the important classes and varieties of rocks, a good working collection of the important rock-forming minerals, a collection of sections showing the microscopic structure and optical properties of various classes of rocks, a large and representative collection of ores, a beautiful collection of ornamental mineral materials, and a collection of fossils and casts illustrating the life of every geological period.

Biological Museum.—Contains a collection of over 75,000 specimens of insects, a large collection of vertibrate and invertebrate animals, hundreds of charts and models, an extensive series of prepared microscopic slides, wax models showing the development of the frog, chick, and man, human skeletons, a manikin of the human body, and enlarged models of special parts of the body.

Pathology Museum.—The Pathology museum contains over 500 specimens of diseased organs and tissues of the domestic animals, and approximately 200 specimens of parasites that infest the domestic animals. These specimens are of inestimable value in teaching parasitology, physiology, pathology, and other branches pertaining especially to veterinary medicine.

Farm Equipment.—The herds of pure-bred animals, and the farm machinery, implements, tools, and dairy apparatus used for instructional purposes in agriculture are worth over $75,000.

Farm.—The college has 472 acres of land under irrigation, and 1,350 acres in pasture. The college farm affords an unusual opportunity for the study of practical farm and garden irrigation, and modern farm management.

The U. S. Department of Agriculture and the College Experiment Station are jointly conducting an experiment in developing a superior type of American carriage horse. This experiment is attracting world-wide attention. The work is being conducted on the college farm. Students have the opportunity and are required to study its progress. There are 92 choice carriage horses and colts now being used in this investigation, with model barns, sheds, paddocks, stable, and harness equipment.

Chemical Museum.—Contains a collection of over 500 specimens of the most important and typical inorganic and organic compounds, as well as elements; a number of exhibits of chemical products, many of which were donated by manufacturing concerns; charts and models of various kinds; and a set of minerals showing the occurrence of the elements. All of this material is used in connection with lectures and demonstrations in chemistry, and is added to, each year.

Herbarium.—The herbarium contains a collection of over 14,000 mounted specimens of seed plants and ferns. About 6,000 of these are Colorado plants; the remainder are from different parts of the United States and foreign countries. In addition to the above, there is a collection of fungi, numbering 6,600 specimens. A large number of these are of economic importance. The herbarium is indispensable in teaching the various courses in botany, and as an aid in identifying plants that are sent in from over the state.

Experiment Station.—The Agricultural Experiment Station of the College has a large and carefully selected equipment for investigation and research in soils, crops, stock feeding, plant and animal breeding; soil, plant and animal diseases; fruit and vegetable growing; insects, and irrigation problems; and is yearly spending $64,000 and upwards in practical investigations under Colorado conditions along these lines. **A study of the equipment and methods used in this work and of the results obtained is of inestimable value to advanced and graduate students.**

Shops and Laboratories.—The equipment used in class and laboratory work in mechanic arts, which includes civil, irrigation, electrical, and mechanical engineering, is worth $55,000.

A Part of the Dairy Herd

A Campus Drive

FORT COLLINS

Nor should mention be omitted of Fort Collins, in the suburbs of which the college is situated; a growing, thriving city of about 12,000 people, which reflects in its commercial, social, educational, and religious life, the best elements of modern American civilization; a city in which no vicious resorts are tolerated; which takes a just pride in the college and its work; which extends a cordial welcome to students and throws about them the most wholesome influences, and which so conducts its municipal affairs as to make it an ideal college town.

Such is the Colorado Agricultural College; such its equipment and appointments; such its location and environment, which combine to reflect the spirit and purpose which pervade its halls and give zest and inspiration to the instruction therein given. Sharing in its advantages and the opportunities that it assures, is the free gift that is now proffered to the boys and girls of Colorado. To those who avail themselves of its privileges, may be guaranteed a thorough training in any of the industrial arts which come within its scope, a broad and generous culture, a higher plane of citizenship, a clearer vision of life's ideals, whose influences conduce to more perfect types of manhood and womanhood, to a more prosperous commonwealth, a greater republic, a larger measure of individual independence, and happier homes.

Fort Collins' Business District During a Celebration

The Churches of Fort Collins Where Students Find Religious Inspiration

Courses of Study

College Courses.—Courses in Agriculture, Mechanic Arts, Veterinary Medicine, Home Economics, and General Science are offered for high school graduates, or for those having equivalent preparation. In agriculture, the opportunity is given for specializing in agronomy, animal husbandry, entomology, forestry or horticulture. In home economics, the opportunity is given for specializing in domestic art or domestic science. In mechanic arts, the opportunity is given for specializing in civil and irrigation engineering, electrical engineering, or in mechanical engineering. In General Science, opportunity is given for specializing in any of the subjects taught in the institution.

Secondary Courses.—Three-year courses of six months each, in agriculture, mechanic arts, and domestic science, are offered by the **Colorado School of Agriculture,** conducted by the college for grammar school (eighth grade) graduates at least fifteen years of age, or for those having equivalent preparation. **Students who have completed the work offered in the School of Agriculture may enter the college after taking the intermediate year, which is offered for just that purpose in connection with the School of Agriculture.** Full description of these courses is given in the special **School of Agriculture Catalog,** which will be mailed upon request.

Similar courses are offered by the Fort Lewis School of Agriculture, a branch of the Agricultural College at Hesperus, Colorado. This school is in session from April to October, and provides practical farm and shop work on a half-time school and half-time work schedule, which enables the students to pay the greater part of their expenses. Courses for rural teachers and twelve-week summer courses in agriculture and pedagogy are also offered. Full description of the work of the school is given in the Fort Lewis School catalog which will be mailed on request.

Apprenticeship Course for Extension Workers.—With the passing of the Smith-Lever Act, and with the general awakening of the country to the needs of the rural population, has come a demand for men and women, graduates of agricultural colleges, with additional training in special lines that will fit them for positions in the extension service of the different states and the nation. For the next few years, while the funds available under the Smith-Lever Act are constantly increasing, there will be a steadily increasing demand for workers. To meet this demand, an apprenticeship course for extension workers is offered. For further details see page 64.

One-Week Courses.—In January of each year, the college offers one-week courses for farmers and housekeepers, open to all who wish to attend. These courses are under the direction of the Extension Service and consist of special lectures and demonstrations with evening lectures on topics of general interest. Farmers' and Housekeepers' week for next year opens January 7, 1918. Special circulars will be mailed on request.

Entrance Requirements for College Courses

Students are admitted to the college either upon certificates from an accredited high school or upon examination.

Certificates from schools not accredited will be considered as the merits of each case may warrant. Students presenting a less number of credits than are required for college entrance may enroll in the Schoo of Agriculture.

Fifteen units are required for admission. Students may be admitted on condition, with fourteen units, the condition to be made up during the first year. A unit course of study is defined as a course covering a schoo year of not less than thirty-five weeks, with four or five (preferably five periods of at least forty or forty-five minutes each, a week. The fifteen units for entrance are divided as follows:

Mathematics	**2**
English	**3**
History	**2**
Science, Chemistry, 1; Physics, 1	**2**
Elective	**6**

Electives may be chosen from the following: Mathematics, 2 Ancient Language, 4; French, 3; German, 3; Spanish, 2; History, 2 English, 2; Science, 2; Drawing, 1; Psychology, 1; Political Economy 1; Shop Work, 2; Agriculture, 2; Domestic Science, 2. (Other elective offered will be considered by the faculty.)

Students who elect engineering must present credits in solid geometry or register for the same in the freshman year.

The following High Schools are Accredited:

Alamosa High School
Appleton Consolidated High School, (Grand Junction)
Arvada High School
Aspen High School
Berthoud High School
Boulder High School
Breckenridge High School
Brighton High School
Brush High School
Cache la Poudre Consolidated School (Laporte)
Canon City High School
Carbondale High School
Central City High School
Cheyenne County High School
Cheyenne (Wyoming) High School
Colorado City High School
Colorado Springs High School
Cripple Creek High School
Del Norte High School
Delta High School
Denver High School (East)
Denver Manual Training High School
Denver High School (North)
Denver High School (South)
Denver High School (West)
Douglass County High School
Durango High School
Eaton High School
Florence High School
Fort Collins High School
Fort Morgan High School
Fowler High School
Fruita High School
Georgetown High School
Glenwood Springs High School
Golden High School
Grand Junction High School
Greeley High School
Gunnison County High School

Holly High School
Hotchkiss High School
Huerfano County High School
Idaho Springs High School
Julesburg High School
Lafayette High School
Lamar High School
Las Animas High School
Leadville High School
Littleton High School
Logan County High School
Longmont High School
Louisville High School
Loveland High School
Mancos High School
Manitou High School
Monte Vista High School
Montrose County High School
Mount Lincoln High School
  (Palisade)
Ouray High School
Palisade High School
Paonia High School
Phillips County High School
Pueblo High School, Dist. No. 1
Pueblo High School, Dist. No. 2
Rifle Union High School
Rio Blanco County High School
Rocky Ford High School
Saguache County High School
Salida High School
Silverton High School
South Canon High School
Trinidad High School
Telluride High School
Union High School, No. 1
  (La Junta)
Victor High School
Washington County High School
  (Akron)
Wheat Ridge High School (Alcott)
Windsor High School
Miss Wolcott's School (Denver)
Yuma County High School (Wray)

General Information

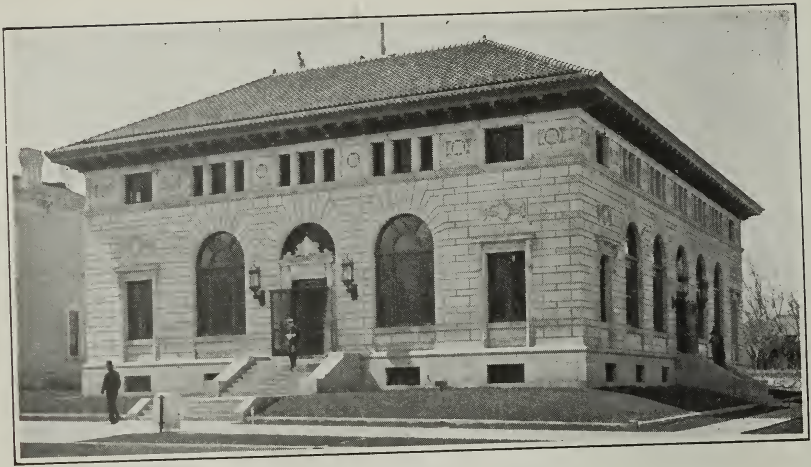
Requirements for Graduation.—One hundred and sixty credits are required for graduation in all courses, of which six must be in military drill for men, or in gymnasium for women. In agriculture, mechanic arts, home economics, and general science, twenty to thirty credits are elective.

A Credit Defined.—One credit is given for one hour of lecture, or recitation work a week, or two hours in the laboratory, or three hours drill or gymnasium, carried satisfactorily throughout a semester. In a few instances, three hours laboratory are required for one credit.

Grades.—The passing grade is 70 per cent. All students who fail to make a standing of 60 per cent will be considered failed, and will be required to take such subjects over again in class. Those making a standing of more than 60 per cent and less than 70 per cent will be considered conditioned, and will be allowed one special examination before the subject is again taught, by which they may try for a passing grade of 70. In cases of studies extending over more than one semester, the student, if he has an average of 60 per cent, may be allowed to continue with his class, but must finally make a grade of 70 per cent in one special examination in each semester. If he falls below 60 per cent in average at the end of a semester, he will be dropped from the class and be required to take a lower subject.

Any student who shall have a semester standing of 90 per cent may be exempted from examination, and in that case his class standing shall be his semester average.

In order to encourage students to do the best work of which they are capable with a limited number of credit hours, rather than undertake



Fort Collins Federal Building

to carry a larger number of credit hours with a lower grade, the faculty considers not only the number of hours the student takes, but the grade received in the different subjects.

In order to do entire justice to the needs of the students, instruction is adapted to the students of average ability. Those who will devote their best efforts and do superior work will not only get more, but they will receive recognition for the same in additional credit.

For each credit hour of which the grade
70 to 75 is given, 10 per cent is deducted.
76 to 85 is given, no change in credits is made.
86 to 90 is given, 5 per cent is added.
91 to 95 is given, 10 per cent is added.
96 to 100 is given, 15 per cent is added.

Entrance Conditions.—All entrance conditions must be removed the freshman year.

Degrees.—The degree of Bachelor of Science is conferred upon the graduates of all courses except those in Veterinary Medicine. Graduates in this course receive the degree of Doctor of Veterinary Medicine.

Special Work For Those Who Desire to Train Themselves to Become Teachers.—In order to meet the Nelson Amendment to the Morrill Act which provides that a part of the additional appropriation be used for providing "courses for the special preparation of instructors for teaching the elements of agriculture and mechanic arts," and to meet the growing demand for teachers of agriculture, mechanic arts, household arts, and of the sciences closely related thereto, the technical courses of the colleges are supplemented by work in psychology, history of education, theory and practice of teaching; and provision is made for practice teaching in the School of Agriculture, under competent supervision. This work satisfies the State Certification Law, which requires "professional training equivalent to at least one-sixth of a standard four years' college course in at least three of the following groups of subjects, one of which shall be Practice Teaching, to-wit:

1. General Educational Psychology
2. History of Education
3. Science and Principles of Education
4. Practice Teaching and Special Methods
5. Organization and Management of Schools
6. Philosophy, Sociology, and Anthropology

State diplomas granted under the provisions of this act entitle the holders thereof to teach in the public schools of any county, city, town, or district in the state without the necessity of any other examinations for a period of five years, unless sooner revoked by the State Board of Education." The diploma may be renewed at the end of five years, and later may be made a life certificate.

A Teachers' Bureau is maintained. This Bureau performs three functions. It collects and tabulates complete detailed information about each applicant for a position. It helps to place teachers with full knowledge of their qualifications and fitness. It keeps in close touch with them, and helps them to succeed, after they are placed.

Address all communications to Teachers' Bureau, Colorado Agricultural College.

There is an opportunity for teachers of experience to come to the college and fit themselves for more advanced positions, or for specializing in Agriculture, Mechanic Arts, and Household Arts, and earn part of their expenses by teaching one or more classes in the School of Agriculture. Special provision is made for students who have taken their professional training in other institutions of higher learning, especially the State Teachers' College of Colorado, or the College of Education at the University of Colorado, and who desire the technical training necessary to fit

"Somewhere" on the College Picnic

themselves as teachers of Agriculture, Mechanic Arts, or Household Arts.

Unclassified Students and Special Courses.—Unless there are strong and excellent reasons for it, a student will not be allowed to take a special course of study; and, in case it is allowed, the student must show that he is well qualified to pursue the studies selected by passing such examinations the faculty may assign. No student will be allowed to change his course during the progress of the semester, nor will he be allowed to drop a study unless by permission of the Executive Committee.

All applications for special courses of study must be made to the chairman of the Executive Committee by mail or otherwise, at least two days before the opening of the semester. Except under unusual conditions, it will be useless for any person to apply for a special course of study involving less work than is required of the students in the regular course.

Unclassified students who wish to become candidates for a degree, must fulfill all requirements for admission to the college, and must complete the required work in the regular manner.

For men and women of maturity and experience who wish training in certain lines, provision is made for attending such classes.

Senior Standing.—At the beginning of the senior year, each member of the senior class, before he will be considered a candidate for graduation, must show the faculty in what way it will be possible for him to make the required credits.

Advanced Standing.—Students entering the Agricultural College from other institutions, of higher learning, that required fifteen units for admission, will be given standing according to the following rules:

1. If such applicant has pursued a regular course of study at the former institution and completed the work taken, he will be given standing with the same class at this institution, and be required to complete work here at the rate of twenty credits for each semester's work yet to be done, but no student will be recommended for a degree who does not present credits for all the required work leading to such degree.

2. Students, coming from other institutions, who have not pursued a regular course of study at such institutions or who have not satisfactorily completed the work so far taken, will be given credit hour for hour for the work, completed and presented, in so far as that work applies to the course of study desired.

Scholarships.—Two scholarships are awarded annually to each accredited high school of the state, one to a boy, the other to a girl, and one scholarship to each of a number of non-accredited high schools. The scholarship is good for four years from date of award. It is not transferable and cannot be extended except by special vote of the Executive Committee of the State Board of Agriculture. Besides the honor it confers, it has the cash value of $40, payable $10 annually, in the remission of fees. The award is made upon the recommendation of the principal of the high school, and the city or district superintendent of public instruction.

Registration.—Tuesday, September 4, and Wednesday, September 5, 1917, are devoted to examination and registration. New students will be met at the trains by committees of young men and women from the

Young Men's and Young Women's Christian Associations, who will take them to the college at once for registration, and will assist them to find good homes and open for them the doors of college life. **Students who fail to register on the dates set for registration will be charged an additional registration fee of $2.00.**

Classes in Elective Subjects.—No class in an elective subject will be formed for less than four students.

General Assembly.—All students assemble twice a week, Mondays and Thursdays, at 9:45, in the auditorium of the main building, for chapel exercises. At the beginning of the year, seats are assigned. Attendance is required.

Tuition and Fees.—Tuition in all the regular classes of the college is free, but fees are charged in the Conservatory of Music, and of each veterinary student whose home is not in Colorado, a non-resident fee of $25.00 is charged.

Entrance Fee.—An entrance fee of $5.00 is required of every student, $2.00 of which is the library fee, and $3.00 of which will be paid by the Registrar to the Treasurer of the Athletic Association upon the written statement of the Secretary of the Association that the student has signed the constitution.

Laboratory fees are charged in certain courses to help defray the cost of materials used. These fees are stated in connection with the description of the different courses.

By unanimous vote, the Associated Students passed a resolution that $5.00 be collected, in addition to the regular registration fee, from each student; $1.00 to pay the annual subscription to the Rocky Mountain Collegian, and $4.00 to pay for a season ticket to all athletic events except the annual athletic smoker.

Graduation Fee.—By a resolution of the State Board of Agriculture, passed in June, 1912, each student who has been recommended to the Board to receive a degree, must, before the degree is conferred, pay a graduation fee of $5.00, or if the degree is conferred in absentia, $10.00.

Estimate of Expenses.—A conservative estimate of the necessary expenses of a student for a year in the institution is as follows:

Board	$135.00
Room	60.00
Books and Fees	40.00
Incidentals, including uniform for men and gymnasium suit for girls	90.00
	$325.00

About one-fifth of the students earn one-third of their expenses.

Homes for Women Students.—Desirable room and board for the young women who attend the college, are secured from among the best homes in Fort Collins. They are all under the supervision and regulation of Dean Virginia Corbett, who is the adviser of college women on all matter pertaining to their home life. Only women students are received in these homes reserved for the college girls, and reasonable regulations which will insure proper home environment for students, are insisted upon.

Boarding Clubs.—A number of boarding clubs for men have been organized and are managed by the students. In these clubs, board may be obtained for from $15.00 to $17.00 each a month. Well furnished rooms for two persons, lighted, heated, and cared for, may be had at $1.25 each per week.

The San Juan Club.—The San Juan Club is an incorporated boarding club, for male college students. Membership is secured by application to the president or steward. On payment of $1.00, together with a reserve deposit of $5.00, board is obtained at the rate of $15.00 a month, payable in advance. The San Juan Club was organized in 1892, and was incorporated under the laws of Colorado in 1903.

Private Board.—Students can secure lodging and board in excellent private families at from $20.00 to $30.00 per month, or board alone, from $18.00 to $25.00 per month. The college authorities are gratified to be able to announce that many of the best homes in Fort Collins are thus opened to students at reasonable rates. No one can estimate the influence of home life afforded the young student who is away from home for the first time.

To those who desire to board themselves, ample and reasonable opportunities are afforded.

The Osgood Fund.—Through the generosity of Mr. John C. Osgood, a loan has been provided for worthy students in the Division of Agriculture. The fund is administered by a committee consisting of the President of the College, the Secretary of the Board of Agriculture, and the Chairman of the Division of Agriculture, and is doing noble service in aiding needy students.

College Day.—A day is set aside each year when all students of the college may take a "day off" and go for a good time into the country. In May, each year, a special train is chartered and the whole college family is taken up into the mountains for an all-day picnic. For the year 1917-1918, College Day will be celebrated on May 10. The students and faculty, alike, look forward to this time with great expectation.

Student Labor.—The college is an employer of student labor to a limited extent. It is the policy of those in charge of the different forms of college work, to favor students whenever service is needed. The best qualified and most willing have the preference, if more service is offered than required.

Conduct.—"The college authorities assume that the students are manly men and womanly women and that they come here earnestly desirous of preparing themselves for useful and honorable careers in life. The aim of the faculty is to lead students to cultivate habits of steady application, self-control, a high sense of honor, truthfulness, and an interest in maintaining the purity of the moral atmosphere of the institution. By common consent, students do not smoke on the campus. Those who are not disposed to support heartily a sentiment of this kind should not apply for admission."

Hazing.—Extracts from the Session Laws of Colorado, of 1907, page 337:

"It shall be unlawful for any person to engage in any of these (those) practices commonly called 'hazing,' or in any acts of torturing, tormenting, or in any way maltreating a fellow inmate, employee, or student.

"Any person found guilty of the violation of the provisions of the first section of this act shall be deemed guilty of a misdemeanor and shall upon conviction be fined not less than five dollars nor more than fifty dollars.

"Any officer, teacher, or student connected with any of the state institutions of this state who shall be found guilty of violating the provisions of this act, shall, if a teacher or employee, be dismissed from the further service of such state institution, and, if a student, his conviction shall work expulsion from the state institution he may be attending, in perpetuum.

"Any complaint of the violation of the provisions of this act coming to the faculty, board of control, regents, trustees, or officers of any state institution of this state shall immediately be inquired into by them, and it shall be their duty to expel students who may be proven to have been engaged in 'hazing,' tormenting, torturing or maltreating their fellow student, notwithstanding no conviction may have been had before a justice of the peace for the same offense."

Resolutions of State Board of Agriculture.—"Resolved, That the state Board of Agriculture is in full sympathy with the state statute on hazing, and that in the conduct of the affairs of the State Agricultural College and other institutions under its control, this law shall be rigidly enforced."

The Cast of "The Piper," a Senior Play Given in an Out-door Theater

Division of Agriculture

The instruction in agrirculture is designed to meet the needs of two classes of students, those who desire to take up some kind of farming as a business, and those who desire to become agricultural experts, teachers, or investigators.

Agricultural Hall, the Zoology building, Farm Mechanics, Laboratory and Machine House, Horticultural Hall, the Live Stock Pavilion, and the new Soils Laboratory, provide ample classroom and laboratory facilities.

The college herds and the Government Horse Breeding Plant provide unusual opportunity for live stock study. The college farm and the Colorado Experiment Station provide facilities for special study along the lines of agronomy, animal husbandry, entomology, forestry, and horticulture.

Of special importance to all classes of students in agriculture is the insect collection in the museum, which numbers 75,000 specimens, affording unusual opportunity for the study of the pests which prey with such disastrous results on the farm, orchard, and garden.

Agriculture in Colorado, as well as in all the arid states rests on irrigation. Hence, in this region it becomes a highly specialized science. In addition to the knowledge required of the average farmer in the humid states, the farmer, orchardist, or gardener, in the arid West, must understand the use of water for the production of crops—when to apply it, its use on different soils, the amount required in the varying soils—altitudes and climatic conditions of different seasons.

Furthermore, there are the proper preparations of the fields for the successful application of water, the proper construction of ditches and laterals for its most economical and intelligent distribution. In brief, agriculture by irrigation is in itself a science which must be mastered in order to assure the most profitable results. Instruction is given to include these special conditions. No other institution is so advantageously situated for giving instruction in arid, high altitude and irrigated agriculture.

In addition to the college equipment, there is the highly cultivated region by which it is surrounded—a region where irrigation has been most successfully developed and most profitably practiced, and where all forms of agriculture abound. Thus to the theoretical and practical instruction given in the college are added the opportunities for observations in actual experience provided by the productive and prosperous conditions of agriculture that surround the institution.

Opportunities.—The population of the country is beginning to press upon its productive capacity. Land values have risen enormously, necessitating higher and higher production in order to pay interest on the increased valuation and return a profit. To meet these increased requirements, the farmer must be better trained, more intellignt than ever before, or be reduced to a hopeless drudge. In addition to the opportunities offered for trained men, as farm owners or operators, there are constant requests for properly fitted men as farm managers, consulting experts, teachers, and investigators. The college has been unable to fill the numerous requests which it has received for such trained men.

To meet the varied and special agricultural conditions of the state, election is offered in five courses, Agronomy, Animal Husbandry, Entomology, Forestry, and Horticulture. The first two years of these courses are identical. Specialization in the respective courses begins in the junior year.

DIVISION OF AGRICULTURE

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester			Second Semester		
51.	Stock Judging	2	12.	Rural Architecture	3
101.	Botany	5	102.	Agricultural Botany	2
311.	English	3	201.	Surveying	3
318.	Literature	2	202.	Field Work	2
602.	Algebra	2.5	312.	English	3
603.	Trigonometry	2.5	319.	Literature	2
653 or 656.	Shop (Bench or Forge)	2	351.	Physiology	3
701.	Infantry Drill and Theory of Military Art	1	656 or 653.	Shop (Forge or Bench)	2
			702.	Infantry Drill and Theory of Military Art	1

SOPHOMORE YEAR

First Semester			Second Semester		
1.	Crop Production	3	2.	Soils	3
151.	Chemistry	3	52.	Stock Judging	2
152.	Chemistry Laboratory	2	153.	Chemistry	3
313.	Argumentation	2	154.	Chemistry Laboratory	2
352.	Zoology	3	314.	Argumentation	3
359.	Zoology Laboratory	1⅓	451.	Plant Propogation	3
755.	Physics	3	757.	Physics	3
756.	Physics Laboratory	2	758.	Physics Laboratory	2
703.	Combat Firing and Theory of Military Art	1	704.	Combat Firing and Theory of Military Art	1

In the College Pasture

THE COURSE IN AGRONOMY

The most pronounced industrial development taking place in Colorado today is in agriculture. This development calls for a knowledge of the principles underlying the management of lands, the maintenance of the productive capacity of soils, and the relation of cropping systems to a permanent, profitable production.

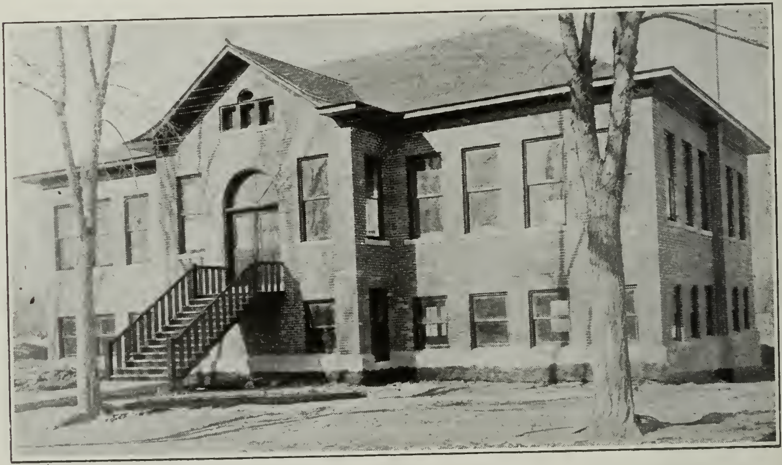
The course of Agronomy is intended to fit young men to meet the problems presented in so far as they relate to the growth of crops and management of lands.

The great diversity of soils, altitude, and climate, gives rise to a variety of crops and crop growing conditions rarely equaled. Thus, there is afforded an opportunity for studying crop production and improvement, soil and farm management under irrigated and dry farming conditions, from a moderate altitude to one so high that vegetation ceases to grow.

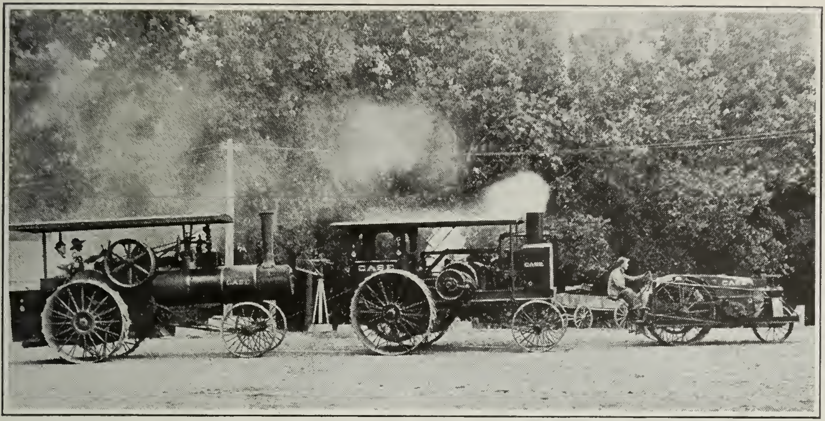
The modern farm requires the use of a large amount of complicated machinery. Mechanical power of one kind or another is rapidly replacing hand labor upon many farms. Many of the problems of farm labor are being solved by the adaptation of machines and motors to the work on the farm.

To meet this demand, instruction is given in Farm Machinery, Farm Motors, Rural Architecture, and Farm Equipment. Through these courses, the student becomes acquainted with the latest farm machinery, farm implements, and various types of power adapted to farm use. In the study of Rural Architecture, he becomes acquainted with the buildings of the farm, the material available for building purposes, rural sanitation and the essential points to be considered in the use of the material available for the construction of the buildings and equipment of the rural home.

Manufacturers and dealers in farm machinery, farm engines, and equipment, are rather liberal in the loan and donation of up-to-date



The Soils Laboratory



Three Types of Tractors Driven by Students—Gasoline, Kerosene and Steam

machines, engines, and equipment for instructional purposes. The department now has on hand, upward of $15,000 worth of such implements.

The demand for young men properly trained along these lines is greater than the supply both in practical and scientific work.

While students taking work in this department may choose their electives from any of the subjects for which they are qualified, the following subjects are recommended as desirable electives: 53 Feeds and Feeding, 70 Animal Nutrition, 106 Systematic Botany, 10 and 11 Soil Fertility, 9 Agronomy Seminar, Entomology, and 55 Judging and Study of Breeds.

COURSE OF STUDY IN AGRONOMY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

	First Semester			Second Semester	
3.	Crops Laboratory	3	4.	Soils Laboratory	2
13.	Farm Machinery	3	14.	Farm Motors	3
103.	Plant Anatomy	2	104.	Plant Physiology	3
155.	Organic Chemistry	3	157.	Organic Chemistry	3
156.	Organic Laboratory	2	158.	Organic Laboratory	2
162.	Geology	2	211.	Irrigation Engineering	3
	Electives	3		Electives	3
*706.	Duties of Officers and Field Studies	1	*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

	First Semester			Second Semester	
6.	Advanced Farm Crops	3	7.	Farm Management	3
107.	Plant Pathology	3	8.	Plant Breeding	3
301.	Economics	2	303.	Irrigation Law	2
354.	Embryology	1	895.	Bacteriology	2
361.	Genetics	1		Electives	9⅓
	Electives	9⅓			

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*Required of cadets who did not take training camp during the freshman or sophomore year. Elective for others.

THE COURSE IN ANIMAL HUSBANDRY

Live stock production and allied industries require a considerable degree of expert knowledge. The Animal Husbandry course aims to give a broad education in general agriculture, and to train for the work of a live stock specialist.

The equipment in live stock at the college ranks with that of the best institutions in the Middle West; and the freedom of electives allowed in the course permits a student to train for any special line of work open to live stock experts.

The graduate from this course has several lines of work open to him, among which are the management of live stock farms and ranches; agricultural journalism; teaching in agricultural colleges and high schools; investigational work in experiment stations; position as salesman for live stock houses, and for live stock supply manufacturers; scientific assistant in the Department of Agriculture; and, above all, he is fitted to breed live stock intelligently upon his own farm, if he be so fortunate as to possess one.

The demand for strong men in these lines of work is insistent. The college has placed all its qualified live stock men without difficulty.

Although the student is given free choice in the matter of electives, the following are suggested as being particularly suited to this course: Junior year, first semester, 3 Crops Laboratory, 6 Advanced Crops, 64 Swine Husbandry, 66 Buttermaking and Milk Separation, 69 Animal Husbandry Seminar, 559-60 First Year German; 4 Soils Laboratory, 5 Forage Crops, 65 Pedigree Work, 75 Animal Husbandry Seminar, 109 Weeds and Poisonous Plants; senior year, first semester, 60 The Horse, 63 Sheep Raising, 59 Inspection of Dairies, 72 Creamery Work, 73 Experimental

Students Judging Poultry

Methods, 74 Animal Husbandry Seminar, 301 Economics, 353 Elementary Entomology, 509 Second Year German; second semester, 10 Soil Fertility, 11 Soil Fertility Laboratory, 70 Animal Nutrition, 71 Poultry Husbandry, 71a Poultry Husbandry, 161 Agricultural Chemistry, 303 Irrigation Law, 561-2 Second Year German, 110 Agrostology.

COURSE OF STUDY IN ANIMAL HUSBANDRY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

53.	Feeds and Feeding	3
54.	Breeds of Live Stock	3
55.	Judging Purebred Live Stock	2
62.	Testing Milk and Cream	1
155.	Organic Chemistry	3
156.	Organic Laboratory	2
351, 364.	Genetics and Embryology	2
	Electives	3
*706.	Duties of Officers and Field Studies	1

Second Semester

61.	Animal Breeding	3
157.	Organic Chemistry	3
158.	Organic Laboratory	2
211.	Irrigation Engineering	3
895.	Bacteriology	5
	Electives	4⅔
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

56.	Beef Production	2
66.	Buttermaking	2
58.	Milk Production	2
855.	Comparative Anatomy	3
	Electives	9

Second Semester

7.	Farm Management	3
68.	Live Stock Practicums	2
857.	Physiology	5
	Electives	10

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*Required of cadets who did not take training camp during the freshman and sophomore years.

Students Judging Horses

THE COURSE IN ENTOMOLOGY

The aim of the course in Entomology is to prepare men for positions in the Government Bureau of Entomology and in the various agricultural colleges and experiment stations of the country, and for similar positions in foreign countries. The course also specially prepares young men to act as county horticultural inspectors, and it is a great help to those who wish to become managers of orchards and ranches.

A number of such positions are already being held by our graduates that have specialized in entomology. The better positions call for men with a broad scholarship as a basis for their work.

Some Latin, and a good reading knowledge of German and French are a great help to anyone pursuing this course.

During the junior year the required work of this course runs parallel with the course in horticulture.

While the students are given full choice in the matter of electives, the following are recommended from among those offered: Junior year, first semester, 103 Plant Anatomy, 3 Crops Laboratory, 401 Elements of Forestry; second semester, 4 Soils Laboratory, 61 Animal Breeding; senior year, first semester, Modern Language, 301 Economics, 210 Photography, 504 Pomology, 505 Pomology Laboratory, second semester, Modern Language, 8 Plant Breeding, 7 Farm Management, 161 Agricultural Chemistry.

COURSE OF STUDY IN ENTOMOLOGY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester			Second Semester		
103.	Plant Anatomy	2	104.	Plant Physiology	3
155.	Organic Chemistry	3	157.	Organic Chemistry	3
156.	Organic Laboratory	2	158.	Organic Laboratory	2
162.	Geology	2	353A.	Entomology	3
353.	Entomology	5	364.	Insecticides, Fungicides	2
	Electives	4		Electives	5
*706.	Duties of Officers and Field Studies	1	*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester			Second Semester		
107.	Plant Pathology	3	303.	Plant Breeding	3
354.	Embryology	1	355.	Forest Insects	1
356.	Entomology	5	357.	Entomology	5
	Electives	9		Electives	8

THE COURSE IN FORESTRY

The course in Forestry is primarily technical, aiming to teach the principles of the subject and to give considerable field work to show the application of the principles. Forestry is a four year course. The technical work, beginning in the first semester of the junior year, rather fully occupies the curriculum for the last two years.

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*Required of cadets who did not take training camp during the freshman and sophomore years. Elective for others.

By choosing certain electives, the Forestry Department will give work very helpful in preparing students for general forestry work, grazing administration on national forests or private range management of stock, and the retail lumber business.

A course in Farm Forestry, dealing with fence post preservation, windbreak planting, and the planting and care of woodlots, is offered as an elective to agricultural students.

College forests of various types to serve as out-of-door laboratories are located on Horsetooth Mountain, close to the city, and at intervals extending as far westward as timberline on Comanche Peak near the Continental Divide. These forests aggregate 1,600 acres. The commodious new Forest Lodge for the accommodation of field classes is located on one of these college forests, forty miles west of Fort Collins.

While the students are permitted to make their own choice of electives, the following list is suggested as offering studies specially suitable for the course: Junior year, first semester, 203 Surveying, 355 Forest Entomology, 301 Economics; second semester, 402, Farm Forestry, 408 Forestry Engineering, 109 Weeds and Poisonous Plants,† 402 Fall Camp, six weeks; senior year, first semester, 417 History of Forestry, 110 Agrostology,† 162 Geology, 210 Photography; second semester, 421 Tree Pathology, 422 Grazing,† 423 Spring Camp, two weeks, 225 Highway Construction.

COURSE OF STUDY IN FORESTRY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

103.	Plant Anatomy	2
108.	Plant Ecology	3
401.	Elements of Forestry	2
403.	Dendrology	3
405.	Silvics	3
	Electives	5
*706.	Duties of Officers and Field Studies	1

Second Semester

104.	Plant Physiology	3
404.	Dendrology	3
406.	Silviculture	3
407.	Forest Mensuration	3
409.	Forest Utilization	2
	Electives	5
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

107.	Plant Pathology	3
411.	Lumbering Report	1
413.	Forest Management	3
415.	Forestry Seminar or Problems	2
419.	Wood Technology	3
	Electives	5⅔

Second Semester

106.	Systematic Botany	3
410.	Logging	3
414.	Forest Valuation	3
416.	Forestry Seminar or Problems	2
418.	Forest Policy and Administration	2
420.	Forest Protection	2
	Electives	5

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†Essential for students specializing in grazing subjects.

*Required of cadets who did not take training camp during the freshman and sophomore years. Elective for others.

COURSE IN HORTICULTURE

The horticulture of the Rocky Mountain states, is, to a great extent, in a class by itself. The dry atmosphere, high altitude, and the artificial use of water make many of the practices, if not the principles, of horticulture here different from those of the humid sections. The many natural advantages for a high development of horticulture in these sections have brought this industry rapidly to the front. Colorado fruit is already noted, in all the high class markets, for its rich color, perfect form, and fine quality, as well as for the amount of the product.

Other horticultural crops are rapidly coming into prominence. Among these, the potato industry is already an established factor in Colorado wealth. Cabbage, celery, and melon growing are coming to the front, and the possibilities for development in the line of vegetable and strawberry growing in the high mountain valleys are attracting much attention.

These intensive industries bring many problems that are beyond solution by the ordinary grower. For this reason the demand for men who know not only how to grow these plants, but also know the underlying principles of plant growth, their diseases and remedies, is becoming greater year by year.

The course in horticulture is designed to train men to meet this demand. With this end in view, the course has been arranged to give the student a maximum of foundation sciences that he may be equipped to solve the problems that will confront him in the field.

Sufficient time is not available during the course to give the student as much experience in the field as is desired. It is therefore recommended that those students, who have had but little experience in horticultural work shall spend one summer vacation or its equivalent in the field.

Another View of the Campus in Summer

In One of the Greenhouses

While the student is given full choice in the matter of electives, it is recommended that the following be taken: First semester, junior year, 403 Dendrology; second semester, 303 Irrigation Law; first semester, senior year, 356 Advanced Entomology, 105 Experimental Plant Physiology; second semester, senior year, 507 Floriculture, 509 Landscape Gardening, 357 Advanced Entomology, 106 Systematic Botany, 108 Ecology of Plants.

COURSE OF STUDY IN HORTICULTURE

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

103.	Plant Anatomy	2
155.	Organic Chemistry	3
156.	Organic Laboratory	2
162.	Geology	2
353.	Entomology	5
503.	Small Fruits	2
	Electives	2
*706.	Duties of Officers and Field Studies	1

Second Semester

104.	Plant Physiology	3
157.	Organic Chemistry	3
158.	Organic Laboratory	2
502.	Vegetable Gardening	3
	Electives	6
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

107.	Plant Pathology	3
354.	Embryology	1
504.	Pomology	3
505.	Pomology Laboratory	1
507.	Floriculture	2
508.	Floriculture Laboratory	1
	Electives	6⅔

Second Semester

8.	Plant Breeding	3
509.	Landscape Gardening	2
510.	Landscape Gardening Laboratory	1
511.	Forcing Vegetables	2
512.	Experimental Horticulture	3
513.	Plant Evolution and History of Cultivated Plants	2
	Electives	9

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*Required of cadets who did not take training camp during the freshman and sophomore years. Elective for others.

Division of General Science

The course in General Science is open to both men and women. During the first two years the student gains a fundamental training in one of the established courses. During the junior and senior years he may pursue advanced studies in any department of the college for which his previous training fits him, except he may not major in a department which now offers a course of study leading to a degree. He selects his major subject at the beginning of the junior year, and, in consultation with the head of the department where the majority of his major credits are to be made, associated minors. The major credits shall not number less than twenty and shall present a consistent line of study throughout the two years. Minors shall be defined to mean such subjects as are naturally related to the majors. The course recommended by his major professor must be approved by the Executive Committee. His major professor is his advisor throughout the junior and senior years.

COURSE OF STUDY IN GENERAL SCIENCE

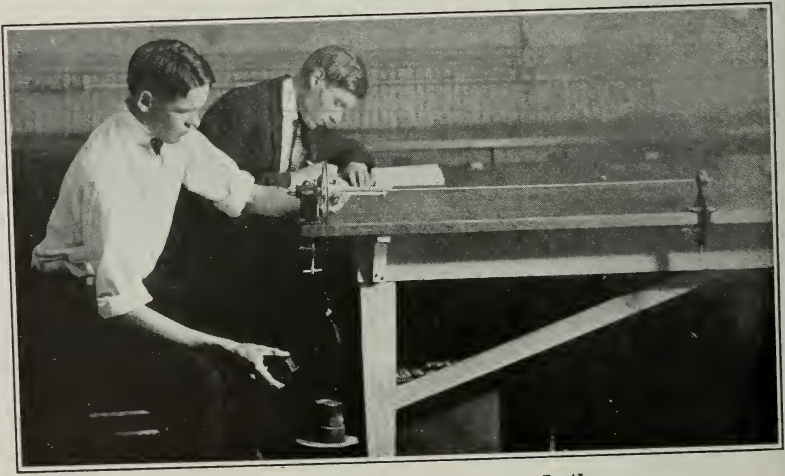
The freshman and sophomore years of the course may be in the Division of Agriculture (page 43), the Division of Home Economics (page 54), the Division of Mechanic Arts (page 57), or the Division of Veterinary Medicine (page 63).

JUNIOR YEAR

First Semester		Second Semester	
Major and Minors	13	Major and Minors	13
Elective	5	Elective	5
Drill	1	Drill	1
	19		19

SENIOR YEAR

First Semester		Second Semester	
Major and Minors	10	Major and Minors	10
Elective	9⅓	Elective	9⅓



Testing Rigidity by the Torsion Lathe

Types of Homes Students Find in Fort Collins

†Division of Home Economics

The Division of Home Economics offers to women a four-year combined academic and technical course, offering in addition to training in home economics, the advantages of study in mathematics, science, English, literature, economics and modern languages. There is uniform requirement for all students in the first two years. In the junior and senior years, opportunity is given for election in Domestic Science or Domestic Art. This enables the student to do more intensive work in the direction of her special interest. Each course leads to the degree of Bachelor of Science.

A liberal choice of electives is open to junior and senior students. A few of the courses are planned to meet the specific need of students who contemplate entering vocational fields of work other than teaching.

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

	First Semester	
311.	English	3
318.	Literature	2
451.	The House	4
463.	Sewing I	3
602-603.	Mathematics, or 351, 453 Physiology and Personal Hygiene*	5
751.	Household Physics	2
752.	Household Physics Laboratory	1
	Gymnasium	1

	Second Semester	
312.	English	3
319.	Literature	2
452.	The House	5
455.	Foods I**	2
604.	Mathematics, or 101A Botany*	5
753.	Household Physics	2
754.	Household Physics Laboratory	1
	Gymnasium	1

SOPHOMORE YEAR

	First Semester	
151.	Chemistry	3
152.	Chemistry Laboratory	2
313.	Argumentation	2
352, 360.	Zoology or	4⅓
605.	Differential Calculus	5
456.	Foods II	3
551-5.	Modern Languages	5
	Gymnasium	1

	Second Semester	
153.	Chemistry	3
154.	Chemistry Laboratory	2
310.	English History	3
314.	Argumentation	3
457.	Foods III	2
464.	Sewing II	2
552-6.	Modern Languages	5
	Gymnasium	1

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*Students electing Home Economics are advised to select courses in botany, physiology, and personal hygiene.

**Required of Home Economics students not presenting Domestic Science upon entering.

†All students registered for courses in foods must wear as laboratory uniform, white tailored waist of cotton or linen and white apron of design executed by the department. Upon request, detailed information will be sent, regarding the type of apron, hand towel, and holder required. Lockers are available. The deposit of one dollar for locker key is refunded at the close of the year, upon the return of the key.

COURSES OF STUDY IN HOME ECONOMICS

For freshmen and sophomore years of course, see page 54

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester						Second Semester					
Domestic Science			**Domestic Art**			**Domestic Science**			**Domestic Art**		
155-6.	Organic Chemistry	5	302.	Sociology	5	157-8.	Organic Chemistry	5	157-8.	Organic Chemistry	5
302.	Sociology	5	155-6.	Organic Chemistry	5	803.	Psychology	5	803.	Psychology	5
458.	Foods IV	4	465.	Textiles I	2	474.	Demonstrations	2	466.	Textiles II	2
	Electives	4	468.	Drafting	3		Electives	6	469.	Dressmaking I	2
	Gymnasium	1		Electives	3		Gymnasium	1	474.	Demonstrations	2
				Gymnasium	1					Electives	2
										Gymnasium	1

SENIOR YEAR

308.	History	2	308.	History	2	309.	History	2	309.	History	2
322.	English Literature	3	322.	English Literature	3	323.	English Literature	5	323.	English Literature	5
454.	Home Nursing	2	454.	Home Nursing	2	460.	Serving of Meals	3	471.	Art Needlework	2
459.	Dietetics	2	472.	Millinery	2	896.	Bacteriology	5		Electives	9
475.	Teachers' Course	3	475.	Teachers' Course	3		Electives	4			
	Electives	7		Electives	8						

Supplementary to the courses regularly offered in the department are courses in physics, chemistry, botany, and bacteriology, in which household applications of the subjects named are especially emphasized. Elective subjects of especial interest are the courses offered in Music, 507 Floriculture, 509 Landscape Gardening, 358 Ornithology, 653 Bench Work in Wood, 66 Butter-making and Milk Separation, 802 History of Education, 801 Methods of Teaching with Observation, 303A Commercial Law, 315, 316 Journalistic Writing, 7 Poultry Husbandry, and 326 Eugenics. The group of Home Economics electives includes 476 Household Economy, 477 Special Problems, 473 Tailoring, 470 Dressmaking II, Practice Teaching, 461 Problems in Dietary Calculations, 467 Textiles III, and 477 Institutional Cookery. While it is open for the student to take any line of electives she desires, yet it is recommended that some be chosen in the direction of the plan for future activity.

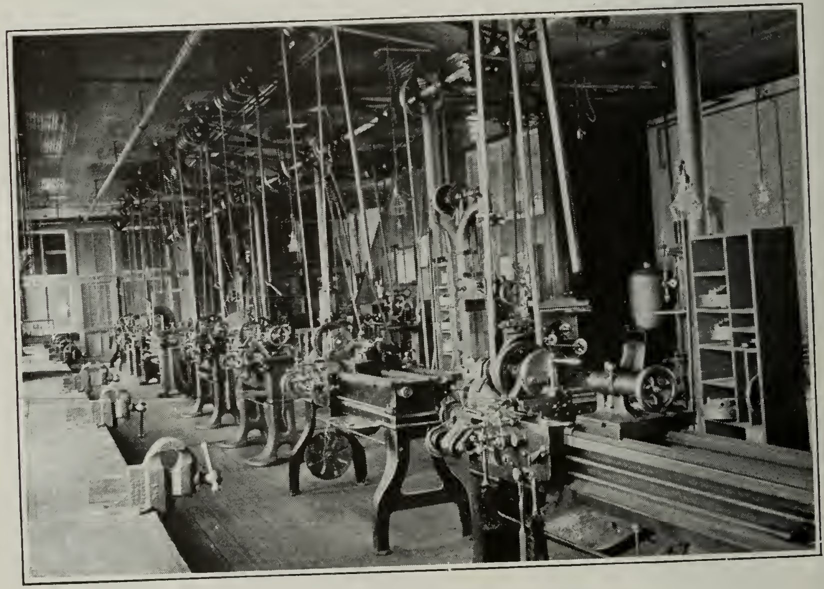
Division of Mechanic Arts

In Mechanic Arts, the college offers standard four year courses in Civil and Irrigation Engineering, in Electrical Engineering, and in Mechanical Engineering.

The studies for the first two years are the same for all engineering courses. Specialization begins with the junior year, and in the junior and senior years considerable freedom in the choice of studies is allowed. A strong faculty, splendid buildings, excellent equipment, and library facilities combine to make the engineering courses especially thorough. The regular college work is supplemented with a great deal of practical outside experience. The summer field camp for Civil and Irrigation engineers, and inspection trips for the senior Electrical and Mechanical engineers, give a good knowledge of the practical needs of the profession.

Students in the Division of Mechanic Arts do most of the engineering work around the college. All of the electric wiring, installation of motors and transformers, electrical and much of the mechanical repair work, the designing and building of experimental apparatus is done by the students of this division.

The great natural resources of Colorado have been developed only sufficiently to show the possibilities of industrial development. This industrial development calls for an increasing number of well trained men. The building of railroads and trolley lines, of dams, canals and reservoirs, of hydro-electric plants and transmission lines, of factories and reduction plants, all offer opportunities for the young engineer; while the operation of these industrial enterprises opens up ever increasing opportunities for the technical graduate.



Lathe Room of the Machine Shop

DIVISION OF MECHANIC ARTS

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester

301.	Economics	3
311.	English	3
318.	Literature	2
602.	College Algebra	2.5
603.	Trigonometry	2.5
651.	Carpentry and Joinery	1
652.	Mechanical Drawing	2
653 or 656.	Shop (Bench or Forge)	2
654.	Shop (Lathe)	1⅓
701.	Infantry Drill and Theory of Military Art	1

Second Semester

201.	Surveying	3
202.	Field Work	2
312.	English	3
319.	Literature	2
604.	Analytic Geometry	5
655.	Mechanical Drawing	2
656 or 653.	Shop (Forge or Bench)	2
702.	Infantry Drill and Theory of Military Art	1

SOPHOMORE YEAR

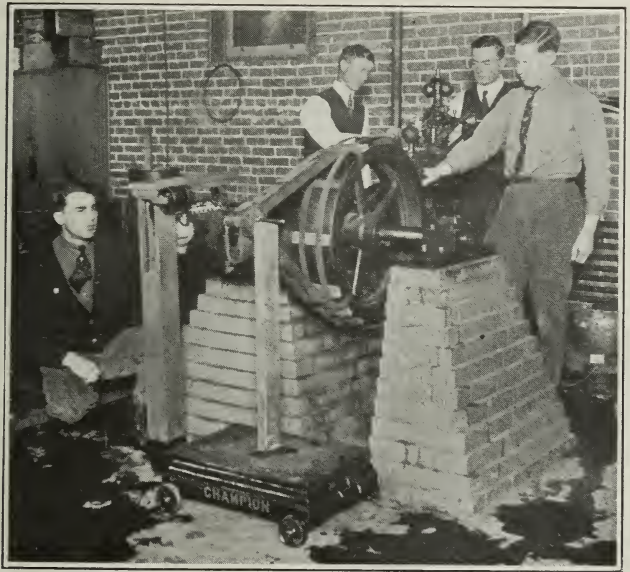
First Semester

151.	Chemistry	3
152.	Chemistry Laboratory	2
605.	Differential Calculus	5
657.	Descriptive Geometry	5
755.	Physics	3
756.	Physics Laboratory	2
703.	Combat Firing and Theory of Military Art	1

Second Semester

153.	Chemistry	3
154.	Chemistry Laboratory	2
306.	U. S. Constitution	2
606.	Integral Calculus	5
757.	Physics	3
758.	Physics Laboratory	2
759.	Applied Mechanics	3
704.	Combat Firing and Theory of Military Art	1

(Civil and Irrigation Engineering sophomores take 207 Field Camp No. 1.)



Students Testing an Engine

THE COURSE IN CIVIL AND IRRIGATION ENGINEERING

Successful agriculture in Colorado is based upon the science of irrigation, and existing conditions in this state call for knowledge along these lines.

As the training in this line is closely associated with the other purposes of the land grant colleges, Civil and Irrigation Engineering has occupied a prominent place in the college for over twenty-five years. It was the first course of the kind ever given in any American college. That the training has proved useful is shown by the records of the young men who have taken it and have attained prominent positions in the irrigation development of this and adjoining states, responsible positions in the Government Reclamation service and positions of trust in many foreign countries.

The intention of the course is to give a broad and thorough foundation for engineering in general, but especially for irrigation engineering, and therefore special attention is given to subjects relating to irrigation, hydraulics, canal construction, and their applications. It is intended not only to give a student the proper theoretical foundation, but to give skill in handling instruments, so that a student will be self-reliant and capable of accurately handling instrumental problems. This also includes instruction in measurement of streams, rating of ditches, etc.

The branch of highway construction has been taught in this department for years and that, together with the surveying, strength of materials, concrete, bridges, etc., places the graduates of this department where experience only is necessary to make them expert road engineers.

Considerable attention is given to practical problems that will cultivate the judgment and self-reliance, and will train the student to meet exigencies as they arise.

The splendid new Civil and Irrigation Engineering building, and equipment, make it possible for this institution to offer students in this department advantages for instruction possessed by no other college in the United States.

While the student is given full choice in the matter of electives, it is recommended that the electives be taken from the following:—Junior year, first semester, 210 Photography, 1 Crops, 220 Testing Laboratory; second semester, 227 Seminar, 2 Soils; senior year, first semester, 209 Draughting, 216 Water Supply, 228 Seminar, 231 Irrigation Laboratory, 3 Crops Laboratory; second semester, 230 Thesis, 229 Seminar, 233 Graphic Statics, 214 Meterology, 217 Drainage, 4 Soils, 215 Canal Management, 225 Highway Construction.

COURSE OF STUDY IN CIVIL AND IRRIGATION ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

203.	Surveying	3
204.	Field Work	3
207.	Field Camp No. 2	1
208.	Drafting	3
219.	Strength of Materials	5
	Electives	4
*706.	Duties of Officers and Field Studies	1

Second Semester

205.	Canal Surveying	2
206.	Field Work	2
211.	Irrigation Engineering	3
212.	Hydraulics	5
213.	Hydraulic Laboratory	2
	Electives	4
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

207.	Field Camp No. 3	1
223.	Engineering Design	3
224-304.	Contracts and Specifications	2
221.	Trusses and Bridges	4
251.	Dynamos and Motors	3
	Electives	8

Second Semester

218.	Dams	2
222.	Concrete	2
232.	Irrigation Laboratory	3
303.	Irrigation Law	2
	Electives	10

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*Required of cadets who did not take training camp during freshman and sophomore years. Elective for others.

Students in Civil Engineering on a Real Project

THE COURSE IN ELECTRICAL ENGINEERING

The object of the course in Electrical Engineering is to train young men for service in the electrical engineering profession. The course offered is in accordance with the electrical engineering courses of the large technical institutions. The department is well prepared both in instructional force and laboratory equipment to give the highest type of work.

We believe that a student learns best by doing. The student is therefore given an opportunity to get experience here which he usually does not get until after leaving college. The electrical work about the college is done by students of the department.

While it is open for the student to make his own choice of electives, it is recommended that subjects from the following list of electives be taken:—Junior year, first semester, 220 Testing Laboratory, 658 Steam Boilers; second semester, 258 Electric Lighting and Photometry; senior year, first semester, 259 Telephones and Telegraph, 260 Telephones and Telegraph Laboratory, 667 Steam Engines, 266 Electrical Design, 268 Seminar; second semester, 272 Thesis, 270 Hydro-Electric Machinery, 273 Thesis, 265 Street Railways.

COURSE OF STUDY IN ELECTRICAL ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after refers to credits

JUNIOR YEAR

First Semester

219.	Strength of Materials	5
253.	Direct Currents	2
760.	Electrical Measurements	3
761.	Electrical Measurements Laboratory	2
	Electives	7
*706.	Duties of Officers and Field Studies	1

Second Semester

212.	Hydraulics	5
254.	Direct Currents	3
255.	Electrical Laboratory	5
	Electives	6
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

259.	Alternating Currents	5
260.	Alternating Current Laboratory	5
	Electives	9

Second Semester

261.	Alternating Currents	2
262.	Electrical Laboratory	5
271.	Electrical Power Transmission	2
	Electives	9⅔

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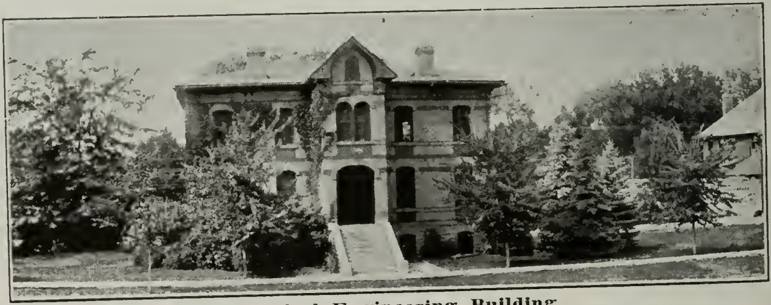
*Required of cadets who did not take training camp during freshman and sophomore years. Elective for others.



Electrical Engineering Building

THE COURSE IN MECHANICAL ENGINEERING

Mechanical Engineering relates to the construction and use of machinery, such as steam engines, machine tools, etc.

The course as presented at the Colorado Agricultural College is such as is given at the best technical schools of the United States. The instruction is intended to be thorough and the equipment is of the very best, care being taken when obtaining apparatus, that each piece shall be of the greatest usefulness for its purpose. Colorado is forging ahead magnificently along industrial lines, and with the development of the vast natural resources within her borders, new industrial enterprises are springing up everywhere, while the older ones are becoming more firmly established. With this industrial demand comes a demand for men competent to solve the problems connected with such enterprises. Young men from this college are in many of these establishments, occupying positions of trust and responsibility.

This course prepares students for the profession of mechanical engineering. It teaches the general principles of engineering and unites theoretical work and practical research. Instruction is imparted by means of text-books, lectures, illustrations, and experiments in testing materials, machines, and motors.

While it is open for the student to take any elective studies he desires, yet it is recommended that they be taken from the following list:—Junior year, first semester, 660 Gas and Oil Engines, 669 Transmission of Power, 665 Machine Design; second semester, 664 Machine Shop Tools, 661 Machine Design; senior year, first semester, 670 Machine Design, 671 Specifications and Contracts, 672 Seminar, 677 Railway Mechanical Engineering. 683 Thesis; second semester, 673 Materials of Machines, 675 Shop, 679 Steam Engine Design, 680 Compressed Air Machinery, 681 Seminar, 684 Refrigerating Machinery, 222 Concrete.

COURSE OF STUDY IN MECHANICAL ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after refers to credits

JUNIOR YEAR

First Semester

219.	Strength of Materials	5
658.	Steam Boilers	3
659.	Principles of Mechanism	3
662.	Shop (Foundry)	3
663.	Shop (Pattern Making)	2
	Electives	4
*706.	Duties of Officers and Field Studies	1

Second Semester

212.	Hydraulics	5
666.	Machine Work in Metals	3⅓
668.	Thermodynamics	3
	Electives	6
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

251.	Dynamos and Motors	3
252.	Dynamos and Motors Laboratory	2
667.	Steam Engines and Steam Turbines	3
674.	Shop (Machine)	2
	Electives	9

Second Semester

676.	Engineering Design	3
678.	Heating and Ventilation	3
683.	Thesis	2
686.	Mechanical Engineering Laboratory	3
	Electives	8⅓

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*Required of cadets who did not take training camp during the freshman and sophomore years. Elective for others.

Division of Veterinary Medicine

Beginning with the college year 1913-14 the Division of Veterinary Medicine has offered a four year course of nine months each year.

It is considered that this course, based on a fifteen unit requirement for matriculation, is in accord with the highest standards in veterinary education. The added work in Animal Husbandry lines should meet the demands for veterinarians with scientific knowledge of the principles of breeding, dairying, proper rations, adaptation of types to market demands, and individual excellence.

Opportunities for Qualified Veterinarians.—Veterinary Medicine, in its several fields of activity, affords unusual opportunities for young men of character and professional training:

A.—Private Practice—There are many lucrative fields for practice awaiting those veterinarians who are qualified to render an appreciative service.

B.—The United States Army—Veterinarians in the army service have positions similar to those of commissioned officers. The salary begins with $1,700 per year and there is 10 per cent increase for each five years' service up to twenty years. The position carries the same allowance as second lieutenant of cavalry.

C.—The United States Department of Agriculture—In this connection many veterinarians are employed in the Bureau of Animal Industry, as executives, investigators of animal diseases, veterinary inspectors, livestock agents, and quarantine officers. Salaries range from $1,400 to $2,500 per year.

D.—Agricultural Colleges and Experiment Stations—Veterinarians are employed in Agricultural and Veterinary Colleges as instructors, and in Experiment Stations as investigators of animal diseases, at salaries ranging from $1,500 to $3,500.

Animals Used in a Veterinary Clinic

E.—Municipal Food Inspectors—Many veterinarians in addition to private practice are employed as City Veterinarians and Food Inspectors. The veterinarian is the only one qualified by training to supervise all departments of food inspection, and his manifold duties, with due diligence, insure a satisfactory compensation.

F.—State Veterinarians—Here the salaries range from $1,500 to $3,000.

G.—Animal Husbandry—Qualified veterinarians command good fees as counselors to breeders and importers, and in many ways as guardians of the vast animal wealth of the state or nation.

FOUR YEAR COURSE IN VETERINARY MEDICINE

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester

51.	Stock Judging	2
101.	Botany	5
311.	English	3
851.	Anatomy	5
861.	Materia Medica	3
701.	Infantry Drill and Theory of Military Art	1

Second Semester

52.	Stock Judging	2
312.	English	3
852.	Anatomy	5
857.	Physiology	5
862.	Materia Medica	3
875.	Surgical Restraint	1
702.	Infantry Drill and Theory of Military Art	1

SOPHOMORE YEAR

First Semester

352-359.	Zoology	4⅓
853.	Anatomy	5
856.	Histology	5
858.	Chemical Physiology	3
863.	Materia Medica	2
703.	Combat Firing and Theory of Military Art	1

Second Semester

854.	Anatomy	5
859.	Physiology	2
860.	Physiology Laboratory	2
864.	Materia Medica	2
868.	Parasitology	3
871.	Bacteriology	5
704.	Combat Firing and Theory of Military Art	1

JUNIOR YEAR

First Semester

53.	Feeds and Feeding	3
62.	Testing of Milk and Cream	1
354.	Embryology	1
361.	Genetics	1
870.	Pathology	5
876.	Surgery	2
888.	Clinic	2
889.	Theory and Practice	4
*706.	Duties of Officers and Field Studies	1

Second Semester

61.	Animal Breeding	3
109.	Poisonous Plants	2
865.	Pharmacy	2
877.	Surgery	2
880.	Lameness	3
885.	Clinic	2
890.	Theory and Practice	5
*707.	Duties of Officers and Field Studies	1

SENIOR YEAR

First Semester

305.	Jurisprudence	1
866.	Therapeutics	2
869.	Meat Inspection	3
873.	Laboratory Diagnosis	2
878.	Surgery	2
882.	Obstetrics	4
887.	Clinic	2
891.	Theory and Practice	4

Second Semester

867.	Therapeutics	2
874.	Laboratory Diagnosis	2
879.	Surgical Exercises	1
880.	Surgery	2
883.	Shoeing and Soundness	2
884.	Canine Medicine	2
888.	Clinic	2
893.	Dairy Inspection	2
892.	Theory and Practice	5

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*Required of cadets who did not take training camp during freshman and sophomore years.

Apprenticeship Course for Extension Workers

Qualifications—A candidate for apprenticeship shall hold a bachelor's degree with major in agriculture or home economics, or shall have done an equivalent amount of work in one or the other of these lines. The candidate, if a man, must have been farm reared, or must have had two years' experience in farming; if a woman, must be genuinely interested in country life and its problems.

Course of Study—Each apprentice shall spend six months in the field assisting a county agriculturist or specialist, assisting judges at fairs or instructors in extension schools; and shall spend five months on the campus, in the study of office methods, special courses in rural sociology, economics, psychology, if it has not been studied previously, and such other subjects as the particular apprentice may need. He shall familiarize himself with the use of the typewriter, the dictaphone, and the stereopticon; and shall become proficient in freehand lettering and in the making of charts.

Expenses—The expenses of the apprentices will be paid during the time they are in the field.

Certificates—Apprentices having successfully completed the eleven months of work as outlined, will be given certificates stating the nature and amount of training received.

Applications—Applications of those wishing to pursue the course should be sent to the Director of Extension not later than June first.

A Model Kitchen Exhibited by Extension Demonstrator

DEPARTMENTS

AGRONOMY

ALVIN KEZER	Professor
J. D. MARSHALL	Associate Professor
O. S. RAYNER	Associate Professor
E. R. GROSS	Assistant Professor
J. T. COPELAND	Instructor

The Department of Agronomy gives instruction in those subjects which relate to the production of field crops, to soils and to the management of land. The great diversity of Colorado soils, climate and elevation gives a diversity of crops and crop culture rarely equaled. In meeting these diverse conditions, abundant opportunity is offered to study the many phases of crop production, plant breeding, soil physics, soil fertility, and farm management.

1.—Crop Production—A study of Colorado field crops; their seeding, culture, harvesting, and adaptability to different locations with respect to altitude, with and without irrigation. Required in the Division of Agriculture, three hours attendance, three credits, first semester, sophomore year.
Mr. Marshall

2.—Soils—Principles of the origin, physics, chemistry, and biology of soils; their relation to crop production. Required in the Division of Agriculture. Three hours attendance, three credits, second semester sophomore year. Text, "Soils; Their Properties and Management," by Lyon, Fippin, and Buckman.
Mr. Marshall

3.—Crops Laboratory—Laboratory study of Colorado field crops. Identification and classification. Relation of parts and their economic uses. Seed storing, purity, and germination. Treatment of economic diseases. Grading and judging. Required, six hours attendance, three credits, first semester, junior year.
Mr. Marshall

4.—Soils Laboratory—Physical and mechanical properties of soils, their relation to tillage, soil moisture, water application, and crop growth. Required, four hours attendance, two credits, second semester, junior year. Fee, $2.00.
Mr. Marshall

5.—Forage Crops—A laboratory and classroom study of the native and cultivated pasture and meadow crops of Colorado. Their occurrence, culture, adaptability to different regions, feeding value, and uses. Prerequisite, Course 1. Students without prerequisite may enter only by consent of the head of the department. Elective, four hours attendance, two credits, second semester.
Mr. Rayner

6.—Advanced Farm Crops—A more detailed study than Agronomy 1, of selected field and forage crops—their history, character and composition, adaptability, marketing and uses. The value of crop rotation and some of the important rotations for Colorado and other sections of the United States. Prerequisites, courses 1 and 3. Three hours attendance, three credits, first semester, senior year. Text, "Field Management and Crop Rotation," by Parker.
Mr. Rayner

7.—Farm Management—The farming business; relation and adjustment of the various activities, location of farm, equipment, labor, accounting, and marketing. Types or systems of farming and their relation to a permanent agriculture. Irregular or special students may not elect Farm Management without the consent of the head of the department. Three hours attendance, three credits, second semester, senior year. Mr. Rayner

8.—Plant Breeding—A study of the principles of plant improvement. Theories of heredity and variation. Improvement of plant crops by breeding. Work of modern plant breeders. Text, lectures, readings. Irregular and special students may not elect Plant Breeding without the consent of the head of the department. Three hours attendance, three credits, senior year, second semester. Mr. Kezer

9.—Agronomy Seminar—Lectures, readings and consultations on assigned agronomic topics. Elective, first semester, senior year, one hour attendance, one credit, unless otherwise arranged. Mr. Kezer

10.—Soil Fertility—The productive capacity of lands. The relation of manurage, farming methods, and systems of fertility and its maintenance. Elective, second semester, senior year, three hours attendance, three credits. Course offered in even years. Mr. Kezer and Mr. Marshall

11.—Soil Fertility Laboratory—Laboratory work, illustrating principles of soil fertility. Field observations, lectures, and readings. Elective, second semester, senior year, four hours attendance, two credits.
Mr. Kezer and Mr. Marshall

12.—Rural Architecture—The student will be required to make complete working drawings for selected or assigned rural buildings and equipment. In addition to the designing of buildings, a portion of the time will be devoted to the study of building materials available for the rural builder, including farm cement and concrete construction, and such other building materials as are most readily available in the rural community. The minor equipment about the farm and minor building equipment for increasing the convenience of such structures will receive proper emphasis. Required, second semester, freshman year, six hours attendance, three credits. Mr. Gross

13.—Farm Machinery—A course of instruction in the machinery of the farm. The various machines, their uses and manufacture are studied, in relation to their various places of operation upon the farm. Tillage machinery, seeding machinery, harvesting machinery, pumping machinery, and general labor saving machinery adapted to the different processes of farm work are taken up and studied. Usually machines adapted for each of these purposes are available from a number of different manufacturers. Six hours attendance, three credits, first semester, junior year. Text, "Farm Machinery and Farm Motors," by Davidson and Chase. Fee, $1.00.
Mr. Gross

14.—Farm Motors—A study of the motors and power machinery available for farm use. The plans of construction, the care and use of the various types of these motors are carefully studied, including the following motors: The horse; steam, gasoline, water and electric engines.

Methods of applying these various motors to use upon the farm are illustrated. Required, second semester, junior year, six hours attendance, three credits. Fee, $2.00.

Mr. Gross

15.—Rural Architecture—A more advanced course in rural architecture than course 12. This course is recommended as elective for Agronomy, Animal Husbandry, and Horticultural students. Credit according to work done. Prerequisites, courses 12, 13, and 14. May be elected by other than regular students only by the consent of the head of the department.

Mr. Gross

16.—Seminar in Marketing Farm Products—Study of the fundamental principles of market distribution as applied to agricultural products. Elective; may be offered in either semester. Open to juniors and seniors. Others register by consent of department. One hour attendance, one credit. Text: "The Marketing of Farm Products," Weld.

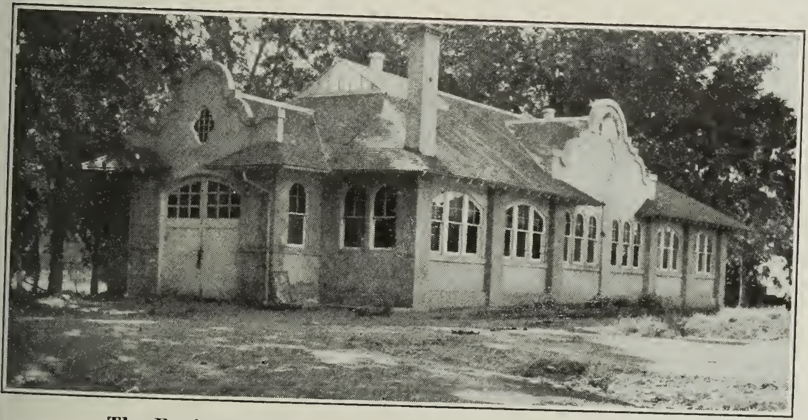
17.—Seminar in Advanced Marketing—A more advanced study of the trade organizations which have to do with the distribution of farm commodities from producer to consumer. Prerequisites, Course 16. Elective, one hour attendance, one credit. Text: "Agriculture Commerce," Huebner.

ANIMAL HUSBANDRY

G. E. MORTON	Professor
CHAS. I. BRAY	Associate Professor
W. T. WASEL	Instructor
C. S. ANDERSON	Instructor
T. E. LEIPER	Instructor

51.—Judging Market Types of Sheep and Swine—Training in the judging of mutton and fine-wooled sheep, and of lard and bacon hogs.

High class, show winning representatives of Shropshire, Oxford Down, Hampshire and Rambouillet sheep, and of Berkshire, Poland China, Duroc Jersey, and Tamworth swine are used for class work. Required in the divisions of Agriculture and Veterinary Medicine, four hours attend-



The Pavilion Where Classes in Stock Judging are Held

A String of Fine Holsteins From the College Herd

ance, two credits, freshman year, first semester. Text: Gay's "Principles and Practice of Judging Live Stock."

Mr. Anderson and Mr. Wasel

52. Judging Market Types of Horses and Cattle—Score card and ring judging of horses and cattle. Aberdeen-Angus, Hereford, Shorthorn, Ayrshire, Guernsey, Jersey, and Holstein-Friesian cattle, and American Saddle, Standard Bred, and Percheron horses owned by the college, are used for judging work. The best collection of carriage horses available for instruction at any agricultural college is found in the breeding stud maintained jointly by the Colorado Agricultural College and the U. S. Department of Agriculture. Required in the Agricultural Divison, sophomore year, and in Veterinary Medicine, freshman year, four hours attendance, two credits, second semester. Mr. Anderson and Mr. Wasel

53.—Feeds and Feeding—The elements of animal nutrition. Calculation of balanced rations. Study of various feeds and feeding stuffs, especially those used in Colorado. Theory and practice of feeding horses, dairy cattle, beef cattle, sheep, and swine. Prerequisites, 151, 152, 153, and 154. Not elective for irregular or special students except with the consent of the head of the department. Required in Animal Husbandry and Veterinary Medicine, junior year, three hours attendance, three credits, first semester. Mr. Bray

54.—Breeds of Live Stock—A course in which the breeds of all classes of live stock are studied in connection with judging. Required in

Animal Husbandry course, junior year, first semester, three hours attendance, three credits. Texts: Plumb's "Types and Breeds of Farm Animals," and Gay's "Principles and Practice of Judging Live Stock."

Mr. Wasel

55.—Judging Pure Bred Live Stock—The Animal Husbandry Department has representative animals of all the principal breeds, many of them prominent prize winning or imported animals. Required in Animal Husbandry course, junior year, first semester, four hours attendance, two credits. Prerequisites, 51, 52, 54. Text: Curtis' "Live Stock Judging and Selection."

Mr. Wasel

56.—Beef Production—Modern methods of producing beef for the market, economic conditions to be considered, feed yard equipment, breeding and selection of stock, feeding and management. Required in the Animal Husbandry course. Prerequisites, 53, 54. Two hours attendance, two credits, senior year, first semester. Lectures, assigned work, Mumford's "Beef Production," and Barnes' "Western Grazing Grounds."

Mr. Bray

57.—Meats—A study of meat and the cuts of meat from the producer's standpoint. The effect of feed on the quality of meat, the chemical composition of meats, killing and dressing of livestock, and cutting and curing of meats. Trips are made to local packing houses and meat shops, and to the Denver packing houses. Probable cost, $5.00. Elective, one hour lecture, two hours laboratory, two credits, senior year, first semester. Lectures and demonstrations.

Mr. Bray

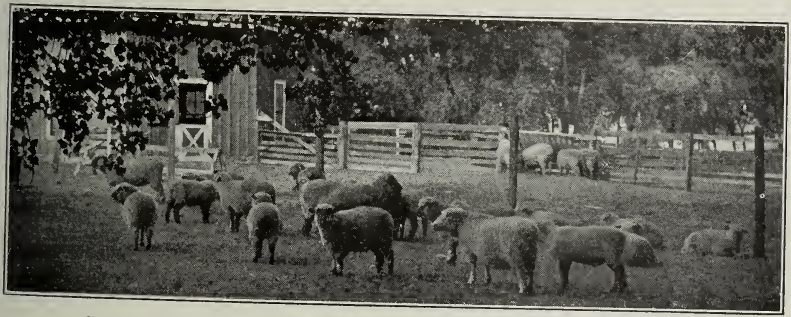
58.—Milk Production—Principles of dairy farming, economic and sanitary milk production, available feeds, management of herd, keeping of records of individual cows. Prerequisites, 54, 55. Required in the Animal Husbandry course, two hours attendance, two credits, senior year, first semester. Lectures.

Mr. Morton

59.—Dairy Inspection—Principles and practice of dairy inspection. Lectures and field work. The head of the department is also State Dairy Commissioner and the experience of the office is made a vital part of the course. Prerequisites, 58, 62, 72. Elective, one hour attendance, one credit, first semester, senior year.

Mr. Morton

60.—The Horse—The horse as a machine. Selection, breeding, care and training of horses. Elective, first semester, senior year, two hours



Some of the Sheep Used in Animal Husbandry Instruction

attendance, two credits. Prerequisites, 52, 53, 54, 55. Texts: Hayes' "Points of the Horse," and Gay's "Profitable Horse Husbandry."
Mr. Wasel

61.—Animal Breeding—Includes work on the principles, methods and practice of breeding; a study of heredity, atavism, variation and allied subjects, and the methods of breeding farm animals practiced by the leading improvers of live stock. Required of Animal Husbandry and Veterinary Medicine juniors, three hours attendance, three credits, second semester. Prerequisites, 354, 361. Mr. Morton

62.—Testing Milk and Cream—The use of the Babcock test for determining the percentage of butterfat in milk and cream. Required in the Animal Husbandry and Veterinary Medicine courses, junior year, first semester, two hours attendance, one credit. Mr. Anderson

63.—Sheep Raising—Practical side of breeding; handling on the farm and range; lamb feeding. Production, grading and marketing of wool. Elective in the Animal Husbandry course, two hours attendance, two credits, senior year, first semester. Prerequisites, 53, 54, 55, 61.
Mr. Bray

64.—Swine Husbandry—Pork production; swine breeding, relation of industry to dairy farming; economical rations; hog farming. Prerequisites, 51, 53, 54, 55. Elective, two hours attendance, two credits, senior year, second semester. Mr. Morton

65.—Pedigree Work—Sets of all the leading American and several foreign herd books are available for this work. A close study of pedigrees, and of the methods of writing and recording them. Elective, two hours attendance, one credit, junior year, second semester. Assigned work. Mr. Bray

66.—Buttermaking and Milk Separation—The making of butter under farm conditions. Care of separators, effect of various changes upon separators, and a study of leading makes of separators. Must have

The Type of Horse Being Bred at the Experiment Station

had, or be taking 62. Required, first semester, senior year, four hours attendance, two credits.
Mr. Anderson

67.—Animal Husbandry Seminar—Students work up selected subjects and report on them, making use of current literature and recent experimental and research work. The recitation period is devoted to discussion. Prerequisites, 53, 54. Elective, two hours attendance, two credits, first semester. (Taught in 1917-1918).
Mr. Bray

68.—Live Stock Practicums—Instruction and practice in cleaning and grooming animals, splicing rope and making halters, braiding manes and tails, trimming feet of farm stock, fitting for show, fitting harness to horses, throwing cattle, shearing sheep, dipping live stock and performing common live stock operations. Elective for Animal Husbandry seniors only, two credits, four hours attendance, second semester.
Mr. Bray and herdsmen

69.—Animal Husbandry Seminar—A continuation of 67. Prerequisites, 53 and 54. Elective. Two hours attendance, two credits, second semester. (Taught in 1917-1918.)
Mr. Morton

70.—Animal Nutrition—A study of the principles of nutrition and of the most recent work done in that line. Prerequisites, 53, 151, 152, 153, and 154. Elective, three hours attendance, three credits, senior year, second semester.
Mr. Bray

71a.—Poultry Husbandry—Breeds, breeding, feeding and care of fowls. Elective, three credits, senior year, first semester. Mr. Anderson

71b.—Poultry Laboratory—Practical instruction in housing, feeding and caring for fowls; judging breeds and types; incubating and rearing chicks, fattening and marketing. Students will be required to plan poultry buildings, brooders and brooder houses, feeding appliances, etc., and help in their construction; also to take charge of the work of caring for fowls, incubating and rearing chicks. Elective, two credits, four hours attendance, senior year, second semester. Fee, $3.00. Mr. Anderson

72.—Creamery Work—Advanced work is given in testing dairy products, creamery calculations, cream ripening, starters, churning, packing and marketing of butter, composition of butter, judging butter, cheese-making, etc. Elective, four hours attendance, senior year, two credits, second semester. Prerequisite, 62, 66. (Taught in 1918-19.) Fee, $1.00
Mr. Anderson

73.—Experimental Methods—A study of modern methods of live stock experimentation, accompanied by practice in conduct of an experiment. Elective, first semester, senior year, five credits. Lectures and assigned work.
Mr. Morton and Mr. Leiper

74.—Animal Husbandry Seminar—Work similar to Course 67. Elective, two hours attendance, two credits, first semester. Prerequisites, 53, 55. (Taught in 1918-19.)
Mr. Bray

75.—Animal Husbandry Seminar—A continuation of course 74. Two hours attendance, two credits, second semester. (Taught in 1918-19.)
Mr. Morton

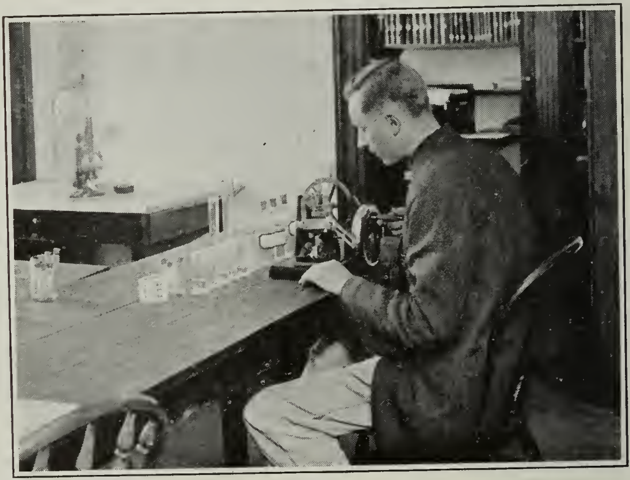
76.—Advanced Stock Judging—Advanced work in judging fat stock and pure bred classes. Show-ring methods and management. Scoring dairy cattle for Advanced Registry. This course will include trips to nearby stock farms, and a six days trip to some of the leading stock farms of the state to study the best types of pure bred stock. Estimated cost of trip, $25.00. Prerequisites, 51, 52, 55. Elective, senior year, first semester, four hours attendance, two credits. Required of candidates for stock judging team. Elective only for men having a grade above 80 in Course No. 55. Mr. Bray

77.—Wool—Study of structure and composition of wool. Effect of soil, feed and care on strength of fiber. Comparison of breeds with regard to wool. Examination of wool and fabrics. The judging and grading of wool samples. Study of modern methods of grading and marketing, and cost of production. Will include a trip to Colorado wool warehouses. Estimated cost, $5.00. Elective, senior year, second semester. Prerequisite, 63. One hour text, two hours laboratory, two credits. Mr. Bray

BOTANY

W. W. ROBBINS............................Professor
H. E. VASEY...............................Instructor

101—General Botany—In this subject the student takes up the study of plants in the probable order of their development, beginning with the lowest and simplest forms and ending with the highest types. Thus the algae, mosses, liverworts, ferns and seed plants are studied with the idea of giving the student a general view of the main divisions of the whole plant kingdom according to their natural relationships. With the higher plants comparative studies are made of roots, stems, and buds, leaves, flowers, fruits, and seeds, from the standpoint of their morphology and ecology. Simple and compound microscopes are used and records are kept in the form of notes and drawings. Required of all students in the divisions of Agriculture and Veterinary Medicine. Three lecture hours,



Cutting Sections for Microscopic Examination in Botany Laboratory

In Camp in the Mountains near Fort Collins

four laboratory hours, five credits, first semester, freshman year. Fee, $1.00.
Mr. Robbins and Mr. Vasey

101A.—General Botany—The above course, varied by the study of economic plant products such as starches, oils, spices, extracts, grains, fibers, etc., is an alternative, required in the Division of Home Economics. Three lecture hours, four laboratory hours, five credits, second semester, freshman year. Fee, $1.00.
Mr. Robbins and Mr. Vasey

102.—Agricultural Botany—This course aims to familiarize the student with the botanical characters and origin of those plants which constitute the crops of the farm, orchard and garden. Furthermore, he is instructed in the use of keys and methods of identifying crop plants. Prerequisite, 101. Required of all students in the Division of Agriculture. Four hours attendance, two credits, second semester, freshman year. Fee, $1.00.
Mr. Robbins and Mr. Vasey

103.—Plant Anatomy—This course deals with the gross and microscopical structure of plants: morphology of the cell, cell division, tissues, and tissue systems. Prerequisite, 101. Required in courses of Agronomy, Horticulture, Entomology and Forestry. Four hours attendance, two credits, first semester, junior year. Fee, $1.00.
Mr. Vasey

104.—Plant Physiology—This concerns itself with the fundamental activities of plants, such as absorption, transpiration, synthesis of foods, respiration, growth, reproduction, and movements. Prerequisite, 103. Required in courses of Agronomy, Entomology, Forestry and Horticulture. Three hours attendance, three credits, second semester, junior year.
Mr. Robbins

105.—Experimental Plant Physiology—Experimental study, in lab-
ratory and greenhouses, of the activities of plants. Emphasis is placed
pon the effect of environmental factors upon these activities. Reference
eading and reports. Prerequisite, 104. Elective for students in the
gricultural group, six hours attendance, three credits, first semester.
ee, $2.00.
Mr. Robbins

106.—Systematic Botany—An advanced course in the study of native
nd introduced seed plants of the state as to their systematic relations.
t is carried on by means of laboratory work and field excursions. Elect-
ve. Prerequisites, 101 and 102. Six hours attendance, three credits,
econd semester.
Mr. Robbins

107.—Plant Pathology—A study of the fungi which cause the diseases of the common plants of farm, orchard, and garden; includes their life histories, distribution, systematic relations, effects upon host, and control methods. The student is also given instruction in cultural methods. Laboratory work with lectures and reference reading. Prerequisite, 103. Required in courses of Agronomy, Entomology, Forestry, and Horticulture, six hours attendance, three credits, first semester, senior year. Fee, $1.00. Mr. Vasey

108.—Plant Ecology—A study of plant associations and the individual plant organism with its various parts in relation to the environment. Detailed study is made of roots, leaves, stems, flowers, fruits and seeds as to their origin, role, and variation. Elective, three hours attendance, three credits, first semester. Reference reading and field observations. Mr. Robbins

109.—Weeds and Poisonous Plants—Weeds and poisonous plants of western states are given primary consideration. A study of botanical characteristics as means for identification of our weeds and stock poisoning plants, and understanding their means of dispersal, harmful qualities, habits of growth, etc. Study of weed seeds, their distinguishing characteristics, and detection in the seeds of economic plants. Drawings and note taking. Reference reading. Required in Division of Veterinary Medicine, three hours attendance, two credits, second semester, junior year. Mr. Vasey

110.—Agrostology—A systematic study of grasses, particularly those of western ranges, pastures, and meadows. Field and herbarium study. Reference reading. Prerequisites, 101 and 102. Elective, six hours attendance, three credits, first semester. Mr. Robbins

111.—Histological Technique—A course giving the student instruction and practice in the killing, imbedding, cutting, and staining of plant tissues. Attention is directed to the staining of pathological tissues, as well as normal tissues. Prerequisites, 101 and 103. Elective, four hours attendance, two credits, second semester, junior and senior years. Text: Chamberlain's "Methods in Plant Histology." Fee, $3.00.
Mr. Robbins and Mr. Vasey

CHEMISTRY AND GEOLOGY

W. P. HEADDEN	Professor
C. E. VAIL	Associate Professor
R. A. BARNES	Instructor
R. G. COFFIN	Instructor

151.—Inorganic Chemistry—Lectures, text, and reference study o the principles of the science, covering the chemistry of the non-metals an their typical and important compounds. Required in all divisions excep Veterinary Medicine. Three hours attendance, three credits, first semester sophomore year. Mr. Barne

152.—Inorganic Laboratory—Exercises to accompany 151. Fou hours attendance, two credits, first semester, sophomore year. Fee, $2.00
Mr. Barne

153.—Inorganic Chemistry—Continuation of 151, covering the chemistry of the metals. Prerequisite, 151. Three hours attendance, three credits, second semester, sophomore year. Mr. Barnes

154.—Inorganic Chemistry—Exercises to accompany 153. A study of typical metals, their properties, tests, and grouping; preparation, properties, and reactions of important compounds. Prerequisites, 151 and 152. Four hours attendance, two credits, second semester, sophomore year. Fee, $4.00. Mr. Barnes

155.—Organic Chemistry—Lectures and text-book study of the aliphatic series. Required in divisions of Agriculture and Home Economics. Prerequisites, 151 to 154, inclusive. Three hours attendance, three credits, first semester, junior year. Text: Perkin & Kipping's "Organic Chemistry." Mr. Vail

156.—Organic Laboratory—Exercises designed to familiarize the student with the preparation, properties, and reactions of typical and important compounds, including qualitative tests. Prerequisites, 151 to 154, inclusive. Accompanies 155. Four hours attendance, two credits, first semester, junior year. Fee, $5.00. Mr. Vail

157—Organic Chemistry—Continuation of 155. Lectures and text-book study of the aromatic series. Prerequisites, 151 to 155, inclusive. Three hours attendance, three credits, second semester, junior year. Mr. Vail

158.—Organic Laboratory—Continuation of 156. Accompanies 157. Prerequisites, 151 to 156, inclusive. Four hours attendance, two credits, second semester, junior year. Fee, $5.00. Mr. Vail

159—Qualitative Analysis—Offered only to class of six or more. Thoro drill in theory and practice of separation and identification of the common metals and acids. Prerequisites, 151 to 154, inclusive. Elective, ten hours attendance, five credits, first semester, junior year. Fee, $6.00. Mr. Vail

The Chemistry Laboratory

160.—Qualitative Analysis—Continuation of 159, including blowpipe practice and analysis of complex solids. Ten hours attendance, five credits, second semester, junior year. Fee, $6.00. Mr. Vail

161.—Agricultural Chemistry—Lectures, demonstrations, and assigned readings on the chemistry of soils and agricultural products, including discussion and study of the methods employed for their analysis. Prerequisites, 151 to 158, inclusive. Elective, two hours attendance, two credits, second semester, senior year. Mr. Vail

162.—Geology—Prerequisites, 151 to 154, inclusive. Required in the Agronomy, Entomology and Horticulture courses, two hours attendance, two credits, first semester, junior year. Text: Scott's "Introduction to Geology." Mr. Vail

CIVIL AND IRRIGATION ENGINEERING

EDWARD B. HOUSE........................Professor
OLIVER PENNOCK ....Associate Professor

201.—Surveying—This course covers the principles underlying the practice of surveying, including the use of chain and compass, in measuring angles and distances, a discussion of the errors that may occur, the balancing of surveys and plotting of field notes, and all other computations that may occur in the course of preparation of a complete map. Particular attention is paid to correct methods of taking field notes. Prerequisite, trigonometry. Three hours attendance, three credits, second semester, freshman year. Required in divisions of Agriculture and Mechanic Arts. Text: "Hosmer & Breed," Vol. 1. Mr. Pennock

202.—Field Work—Practice in the use of compass and level. Taken with 201. Practical problems in land surveying and mapping. Four

A Surveying Party Made up of Students

hours attendance, two credits, second semester, freshman year. Required in divisions of Agriculture and Mechanic Arts. Fee, $2.00.

Mr. Pennock

203.—Surveying—This course is a continuation of that offered in the second semester, freshman year. It is devoted to the use of the transit and the discussion in greater detail of general and practical methods in use in special classes of survey work, topographic and hydrographic work. The determination of the true north by means of observations on Polaris, and by means of the solar attachments is taught, as is also the investigation of the systematic errors of the transit and level and the means of correcting the same. Stadia methods are taken up, and in this as in the other lines of work it is the aim to produce quick and accurate instrument men. Prerequisites, 201, 202. Three hours attendance, three credits, first semester, junior year. Required. Text: "Hosmer & Breed," Vol. 2.

Mr. Pennock

204.—Field Work—Transit and solar work taken in connection with 203. Prerequisites, 201, 202, 203. Six hours attendance, three credits, first semester, junior year. Required.

Mr. Pennock

205.—Canal Surveying—Reconnaissance, preliminary, and location surveys; simple, compound, and transition curves; earthwork, covering the usual methods of computing volume and haul and shrinkage of earthwork; details of construction of the typical canal; covering the effect of grade and curvature on the operation of the canal and the theory of the correct balancing of these features. Prerequisites, 201, 202, 203. Two hours attendance, two credits, second semester, junior year. Text and lectures. Required.

Mr. Pennock

206.—Field Work—This course is taken with 205. A preliminary survey for a canal is made and plans and profiles drawn. From this data, the usual calculation of quantities is made, and the office location projected. This office location is then put on the ground, and cost estimates made. Prerequisites, 201, 202, 203. Four hours attendance, two credits, second semester, junior year. Required. Fee, $1.00.

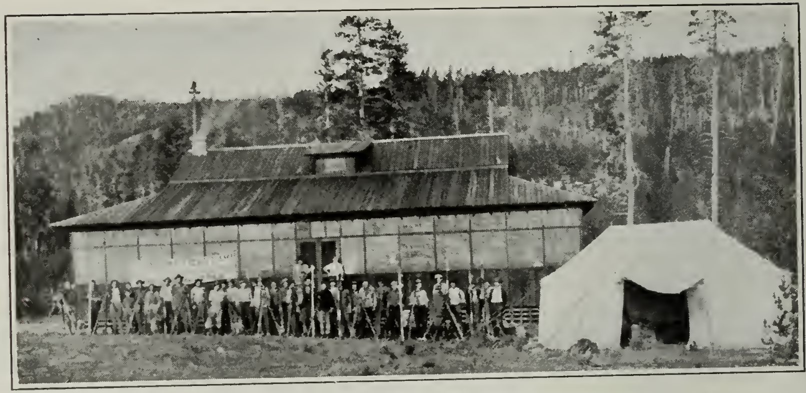
Mr. Pennock

207.—Field Camp—Two weeks before the opening of college in the fall, the sophomore, junior, and senior students in Civil Engineering spend two weeks in the mountains. The sophomores act as rod-men for the upper classmen; the juniors act as instrument men on the survey of a proposed reservoir or other topographic work; and the seniors have charge of the parties and are held responsible for the accuracy of the work. Two credits. Required.

Mr. House and Mr. Pennock

208.—Drafting—This time is given to the plotting of the survey notes of the field camp of the previous summer. The methods of map making which have been previously studied, here receive further exposition by their practical application to problems, all details of which the student has followed from the time of the beginning of the surveys. In the case of the surveys that have to do with water rights, all the necessary forms that have to be complied with in the filing of claims are studied, and the maps are made to conform to them. Prerequisite, 207. Six hours attendance, three credits, first semester, junior year. Required.

Mr. Pennock



The Students in Civil and Irrigation Engineering Spend Two Weeks in Camp Every Fall

209.—Drafting—This is a continuation of the drafting course of the junior year. Prerequisite, 207. First semester, senior year. Four hours attendance, two credits. Elective. Mr. House

210.—Photography—This subject has lately become of great importance and value to the engineer, for it gives him a means of making records of works in process of construction, for taking notes in the field and often for making reconnaissance surveys. Each student is given instruction in the selection and the use of a camera, in development of plates and in printing from negatives. He is required to take photographs, to develop his own plates, and to make prints from the same on different papers. Attendance one hour, one credit, first semester, junior year. Elective. Fee, $2.00. Mr. House

211.—Irrigation Engineering—The principles of irrigation, the duty of water, the measurement of water, the location of irrigation systems, the location of diversion weirs, headgates, and flumes, design and construction of headgates, flumes, and drops, are taught. The methods of irrigation as practiced in different parts of the country are taken up, and the student is given a thorough understanding of the methods of location of an irrigation system and its proper management. Prerequisite, 201. Three hours attendance, three credits, second semester, junior year. Text: Wilson's "Irrigation Engineering," supplemented by lectures. Required. Mr. House

212.—Hydraulics—A thorough course in theoretical hydraulics as presented by modern authors. Prerequisite, Integral Calculus. Five hours attendance, five credits, second semester, junior year. Required. Text: Merriam's "Theoretical Hydraulics." Mr. House

213.—Hydraulic Laboratory—The use of meters for measuring the velocity of water in streams and experimental determination of the constants for different hydraulic formulas together with the testing of water motors and pumps of all kinds. Four hours attendance, two credits, second semester, junior year. Taken with 212. Required. Mr. House

214.—Meteorology—A study of the movements of the atmosphere, the formation, progress, and prediction of storms, together with the climate of different countries. Methods of taking meteorological observations, the keeping of records and interpretation of the same are taken up. One hour attendance, one credit, second semester, senior year. Elective. Text: Milhanis' "Meteorology." Mr. House

215.—Canal Management—This course is intended to give the student knowledge of the problems and duties, and is intended to qualify the students technically for taking part in administration of ditches and the distribution of water when acting as water commissioners or canal superintendents. One hour attendance, one credit, second semester, senior year. Prerequisites, 211 and 212. Lectures. Elective. Mr. House

216.—Water Supply—This course treats of the methods of procuring an ample supply of water for irrigation and domestic purposes. The source of supply, the manner of conveying, storing and distributing the water. Prerequisites, 211 and 212. Two hours attendance, two credits, first semester, senior year. Lectures. Elective. Mr. House

217.—Drainage—An investigation of alkalied and seeped lands, the cause and remedy for this condition; an investigation of different drainage systems and the proper installation and operation of the same. Two hours attendance, two credits, second semester, senior year. Prerequisites, 211 and 212. Elective. Mr. House

218.—Dams—The principle of stability of dams, the methods of dam construction, and the materials to be used. The selection of the proper site for the dam and all the necessary work of design, location, and construction are treated at length. Prerequisites, 211 and 212. Two hours attendance, two credits, second semester, senior year. Lectures. Required. Mr. House

219.—Strength of Materials—This course is the application of the principles of mechanics to the investigation of the stress in and strength of the various materials used in construction. The laws of stress in simple, cantilever, and continuous beams, in materials in direct tension or compression, and in columns and struts, are investigated. Torsion in shafts, stresses in pipes under pressure, strength of riveted joints, simple and combined stresses, temperature stresses, laws of elasticity, resiliance in work, are treated. Numerous problems illustrate the practical application of theoretic truths and laws. The general characteristics of the principal materials, wood, iron, cement, concrete, and steel are discussed. Prerequisites, physics and integral calculus. Five hours attendance, five credits, first semester, junior year. Text: Merriam's "Mechanics of Materials." Required in Division of Engineering. Mr. Pennock

220.—Testing Laboratory—Taken with 219. Actual tests of the tensile and compressive strengths of specimens are made on a 50,000-pound testing machine. Flexural tests are made and data are obtained for computing the Modulus of Elasticity of the tested material. A discussion of the materials of engineering is included. Two hours attendance, one credit, first semester, junior year. Elective. Fee, $1.00. Mr. Pennock

221.—Trusses and Bridges—In this course the methods of computation of the stresses on roof and bridge trusses are applied. The common forms of trusses, such as the Howe, Pratt-Warren, Baltimore, Bowstring, and Parker are investigated under the dead and live loads and the stresses in different members are figured. Live load stresses are figured for both uniform load and concentrated axle loads. Prerequisites, 219, 220. Four hours attendance, four credits, first semester, senior year. Mr. Pennock

222.—Concrete—Under this head, the whole subject of concrete and concrete construction is investigated. The materials used, the proper proportions, the correct manner of mixing, reinforcing and placing, all receive careful attention. Concrete structures of all kinds are carefully considered. Prerequisite, 219. Two hours attendance, two credits, second semester, senior year. Required. Text: Taylor & Thompson's "Concrete." Mr. House

223.—Engineering Design—The student is required to select, either from his own ideas, or with the advice and assistance of the professor, some engineering project, to design the same, and submit working drawings for it. Prerequisites, 212 and 219. Six hours attendance, three credits, first semester, senior year. Lectures and drafting. Required. Mr. House

224 and 304.—Contracts and Specifications—The part that engineers are frequently called upon to play in making contracts and writing specifications makes this subject necessary. In this course the student is taught the essential elements in the writing of contracts and specifications. Two hours attendance, two credits, first semester, senior year. Required. Text: Johnson's "Contracts and Specifications." Mr. Davis and Mr. Pennock

225.—Highway Construction—This deals with the methods of modern road construction. Special attention is given to earth roads, their location, drainage, and repair. Two hours attendance, two credits, second semester, senior year. Elective. Text: Frost's "Art of Road Making." Mr. House

226, 227, 228, 229.—Seminar—Seminar work is given in the last two years of the course and consists in the preparation of papers on engineering problems and on the construction of engineering works. These papers are read before the class and discussed. The object of the work is to encourage as much outside reading as possible, and to make the student conversant with the engineering feats of the present day. Elective. One hour attendance, one credit each semester. Mr. House and Mr. Pennock

230.—Thesis—In the senior year, a suitable thesis is prepared upon some engineering project. Elective. Second semester, senior year, two credits. For seniors only. Mr. House

231.—Irrigation Laboratory—This work takes up the testing of different irrigation structures such as flumes, pipes, headgates, pumps, etc. First semester, senior year, four hours attendance, two credits. Prerequisites, 211 and 212. Elective. Fee, $1.00. Mr. House

232.—Irrigation Laboratory—This subject consists of advanced work in the irrigation laboratory and irrigation work in the field. Prerequisite, 213. Six hours attendance, three credits, second semester, senior year. Fee, $1.00. Mr. House

233.—Graphic Statics—This is taken up with 221 Roofs and Bridges, and treats of the elementary principles of equilibrium of forces and also the graphical determination of center of gravity and moment of inertia. The graphical solution of the stresses in simple roof trusses and bridges. Prerequisites, 219 and 221. One hour attendance, one credit, second semester, senior year. Elective. Text: "Merriam & Jacoby, Part II."

Mr. Pennock

ELECTRICAL ENGINEERING

FRED G. PERSON	Head of Department
WILLIAM S. ALDRICH	Associate Professor
*L. S. FOLTZ	Instructor
F. E. ANDREWS	Instructor

251.—Dynamos and Motors—A study of the elements of electricity; construction and operation of alternating and direct current dynamos and motors. For non-electrical engineering students. Required in Civil and Mechanical Engineering. First semester, senior year, three hours attendance, three credits. Text: "Elements of Electrical Engineering," Wilson.

Mr. Andrews

252.—Laboratory for Course 251—Testing of dynamos and motors. Required in Mechanical Engineering course, first semester, senior year, four hours attendance, two credits. Text: "Dynamo Laboratory Outlines," Wilson. Fee, $2.00.

Mr. Andrews

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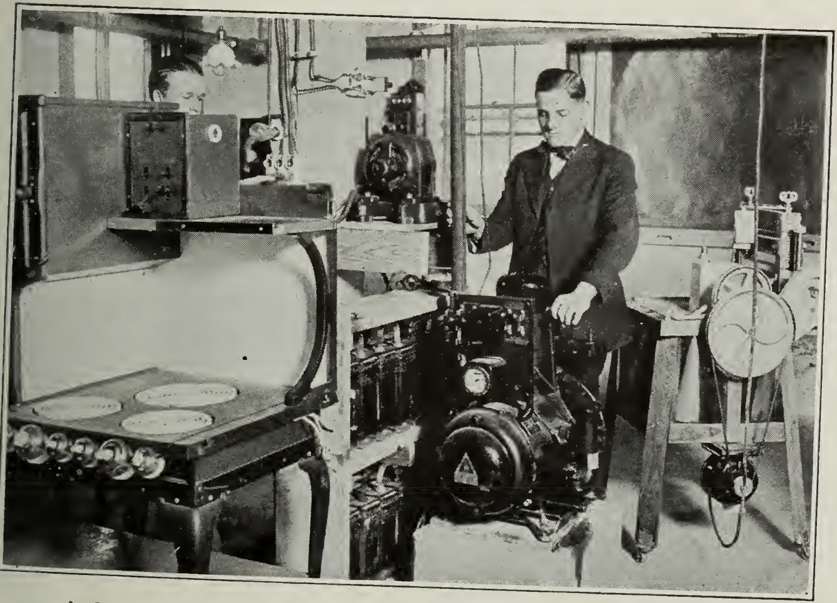
*On leave of absence.



A Corner of the Electrical Engineering Laboratory—Electrical Home Appliances

253.—Direct Currents—The construction and operation of direct current apparatus and machinery. Required in junior year, first semester, two hours attendance, two credits. Text: "Elements of Electricity for Technical Students," by Timbie and Higbie. Mr. Aldrich

254.—Electrical Machinery—Continuation of Course 253 and beginning of alternating currents. Second semester, three hours attendance, three credits. Mr. Aldrich

255.—Electrical Laboratory—Taken with Course 254. Required in electrical engineering group, second semester, junior year, ten hours attendance, five credits. Text: "Wiley Technical Series." Fee, $3.00. Mr. Aldrich

256.—Electric Light and Photometry—A study of lamps and distribution systems; measurement of candle power, etc. Elective, second semester, junior year, three hours attendance, three credits. Texts: "Electrical Engineers' Handbooks." Mr. Aldrich

257.—Telephony—Lectures and recitations on the theory and practice of the modern telephone. Elective, first or second semester, senior or junior students eligible, two hours attendance, two credits. Text: "Telephony," McMeen and Miller. **(This course will not be given both semesters, but given either semester as desired.)** Mr. Aldrich

258.—Laboratory for Course 257—Elective, first or second semester, four hours attendance, two credits. (See Course 257.) Fee, $2.00. Mr. Aldrich

259.—Alternating Currents—Theoretical consideration of alternating current circuits and the main types of alternating current machinery. Required in Electrical Engineering course, first semester, senior year, five hours attendance, five credits. Text: "Alternating Current Electricity," Timbie and Higbie. Mr. Aldrich

260.—Laboratory Course for 259—Required in Electrical Engineering course, senior year, first semester, ten hours attendance, five credits. Text: "Direct and Alternating Current Machinery," Bedell. Fee, $3.00. Mr. Andrews

261.—Continuation of Alternating Currents, Course 259—Required in Electrical Engineering course, second semester, senior year, two hours attendance, two credits. Mr. Aldrich

262.—Continuation of Laboratory Course 260—Required in Electric Engineering course, second semester, senior year, ten hours attendance, five credits. Fee, $3.00. Mr. Aldrich

263.—Study of Modern Electric Railway Systems—Direct and Alternating current. Elective, senior year, first semester, three hours attendance, three credits. Text: "American Street Railway," by Herrick and Boynton. Mr. Andrews

264.—Design of Electrical Machinery and Apparatus—A course in designing electrical machinery, including direct current dynamos and motors, alternating current dynamos and motors and transformers. Elective, first semester, senior year, six hours attendance, three credits. Text: "Electrical Machine Design," Gray. Mr. Aldrich

265.—A Continuation of 264—Elective, senior year, second semester, four hours attendance, two credits.
Mr. Aldrich

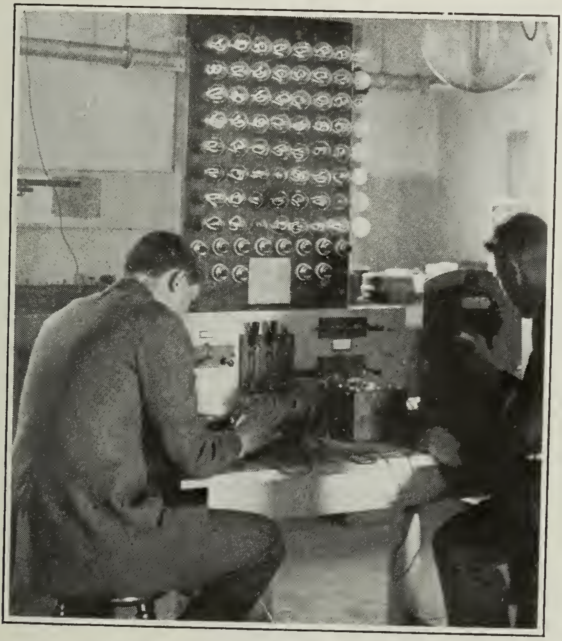
266.—Seminar—Discussion of current electrical engineering topics as treated in the technical journals. Elective, first semester, senior year, one hour attendance, one credit.
Mr. Andrews

267.—Seminar—A continuation of 266. Required, second semester, senior year, one hour attendance, one credit.
Mr. Andrews

268.—Hydro-Electric Plants—A study of the construction, operation and maintenance of hydro-electric plants. Elective, second semester, senior year, two hours attendance, two credits.
Mr. Aldrich

269-270.—Thesis—Experimental investigations in electrical engineering fields. Elective, senior year, each semester.
Mr. Aldrich

271.—Electrical Power Transmission—A study of transmission lines, development, construction, operation, and maintenance. Required in Electrical Engineering course, senior year, second semester, two hours attendance, two credits.
Mr. Aldrich



Investigating an Imaginary Consumer's Complaint—Testing Meters

DEPARTMENT OF ENGLISH AND HISTORY

B. F. COEN	Professor
VIRGINIA H. CORBETT	Associate Professor
C. F. DAVIS	Associate Professor
ALFRED WESTFALL	Assistant Professor
HARRIET SHIPLEY	Instructor
ANNABEL ANDERSON	Instructor
ETHEL TODD	Instructor
MABEL HODDLE	Instructor

301.—Economics—Treats of topics of practical interest and importance to all who are engaged in productive industries; markets, transportation, labor, capital; money standards and the currency, banks and banking, taxation and public expenditures. Partially from the text and partially by lectures. Required in courses of Agronomy, Animal Husbandry, and General Science, first semester, senior year, two hours attendance, two credits, and in Engineering Divisions, three hours, three credits. Text: Ely's "Political Economy."
Mr. Davis

302.—Sociology—An investigation into the various social conditions of the times, the relations of the individual to all the factors of modern civilization, the influence of these factors one upon another, and the part which each person plays in the social, educational, commercial, moral, and religious life of the community. Required in the General Science and Home Economics courses, first semester, junior year, five hours attendance, five credits.
Mr. Davis

303.—Irrigation Law—A study of the history, growth, and development of irrigation statutes in all states where the artificial use of water is necessary for the production of crops. Special attention is given to the controlling opinions of the supreme courts of Colorado and of the United States. Required of students in Agronomy, Animal Husbandry, Entomology, and Irrigation Engineering. Students below junior standing may not elect this subject except by special permission of head of department. Two hours attendance, two credits, second semester, senior year.
Mr. Davis

303A.—Commercial Law—The nature of law, and the sources from which the laws in this country have been derived. The fundamental principles of jurisprudence upon which rest the common transactions of business. The law of negotiable instruments, real property, business associations, agency, and chattel mortgages. Lectures and readings. Elctive for juniors and seniors, two hours attendance, two credits, second semester
Mr. Davis

304.—Contracts—Laws governing engineering contracts. Required in Civil and Irrigation Engineering course, first semester, senior year, one hour attendance, one credit.
Mr. Davis

305.—Medical Jurisprudence—A course of lectures on the law governing the practice of Veterinary Medicine, and the laws and regulations—state and national—governing the transportation of live stock. Required in the Division of Veterinary Medicine, first semester, senior year, one hour attendance, one credit.
Mr. Davis

306.—Constitution of the United States—Instruction is given concerning the events and causes which led to the formation of the national government as it exists today, and the same traced to their historic sources. The workings of the federal government, together with its relations to the states, are also amply illustrated by frequent class lectures. Such information is due at the hands of every institution maintained by state or national aid as tending to better fit its graduates for the duties of citizenship, and for the responsibilities of a republican form of government, which rest with especial weight upon those who have received their education free at the hands of the state or nation. Required in the Division of Mechanic Arts, three hours attendance, three credits, first semester, sophomore year. Text: Young's "The American Government and Its Work."

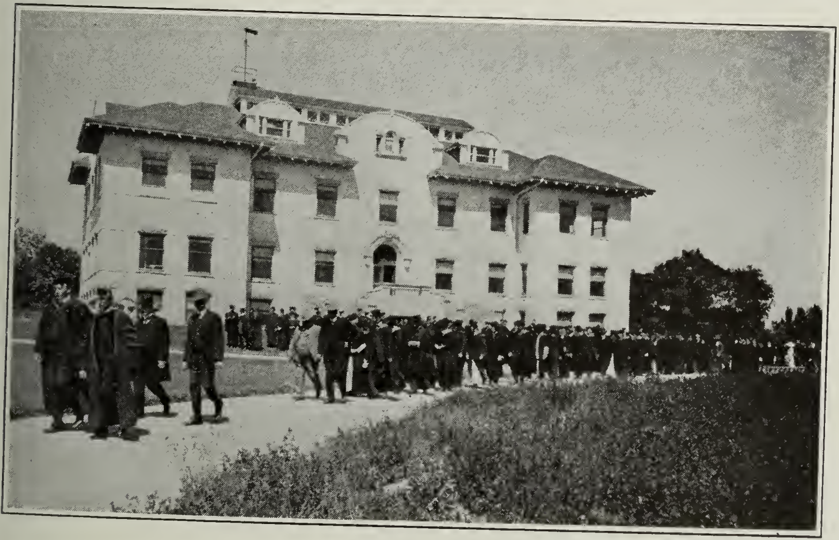
Mr. Davis

307.—Industrial History—The development of the complex industrial life of today. The course includes a review of industrial conditions in primitive England, of the days of the English manor, follows the changes which produced the guild organizations, the domestic system of industries in the United States, the changes resulting from the factory system, and the consequent labor conditions. Elective, first semester, three hours attendance, three credits. Text: "Industrial History of the United States," by Coman, supplemented by library reference work, and first hand study of some phase of industrial life by each member of the class.

Miss Corbett

308.—Advanced History—Study and practice in historical investigations; the laws governing human action; reciprocal influences of religion, literature, and government; comparisons and criticisms of past civilizations and their relation to modern progress. Lectures and library readings. Required in Home Economics course, two hours attendance, two credits, first semester, senior year. Text: Adams' "European History."

Mr. Davis



The Academic Procession on Commencement Day

309.—Advanced History—Continuation of 308. Two hours attendance, two credits, second semester, senior year. Mr. Davis

310.—English History—Valuable as a preparation for work in English literature, constitutional history, and political economy. The industrial development of the English people receives particular attention. Collateral readings from the leading authorities will be furnished by the library. Alternative in Home Economics course, second semester, sophomore year, three hours attendance, three credits. Text: Walker's "Essentials of English History." Mr. Davis

310A.—English—A rapid review of the essentials of high school English with special emphasis upon grammar, punctuation, spelling, and sentence structure. Required of freshmen who are not prepared to take English 311. Three hours attendance, three credits, first semester.

311.—English—Study of the principles of rhetoric. Elements of effective writing in prose based upon the study of selected authors. Analysis of modern prose. Much time is devoted to composition, written and oral. One long theme, 75 to 150 pages, is written during the year. The student must work out very complete plans, must become well acquainted with the library, and must learn to distinguish between the essential and non-essential in books and magazines. Required of freshmen in all courses, first semester, three hours attendance, three credits. Texts: Bates' "Talks on Writing English," (first series), Woolley's "Handbook of Composition," and Young's "Freshman English."

Mr. Coen, Mr. Westfall, Miss Shipley, Miss Todd, Miss Hoddle

312.—Continuation of English 311—Second semester, three hours attendance, three credits.

Mr. Coen, Mr. Westfall, Miss Shipley, Miss Todd, Miss Hoddle

313.—Argumentation—Time is given to practice in argumentation and debate. Freshman English, prerequisite. Required of sophomores in the Agricultural division and in the Home Economics course, first semester, two hours attendance, two credits. Elective in other courses. Text: Foster's "Argumentation and Debating."

Mr. Coen and Mr. Westfall

314.—Argumentation—Continuation of 313, Argumentation. About half of the time will be given to practice work. Second semester, three hours attendance, three credits. Text: Winan's "Public Speaking."

Mr. Coen and Mr. Westfall

315, 316.—Journalistic Writing—Study of some of the leading periodicals. Practice in writing for publication, especially along the lines of work carried on in this institution. Criticism of articles found in various journals. Editorial and business phases of journalism. Two hours attendance, two credits, each semester. Elective for juniors and seniors of all courses. Not open to other students except by permission.

Mr. Coen, Mr. Westfall, Mr. Crosman, Miss Allison, and others

317.—Development of Modern English—This course aims to show something of the development of the English language, taking up inflection, sounds, words, and grammar. Freshman English, prerequisite. Three hours attendance, three credits, second semester. Elective. Mr. Coen

318.—English Literature—A course in literature arranged for technical students. The general purpose of this course is to arouse an interest in good books, to develop the ability to judge their literary value, and to stimulate a desire for more knowledge of literature. One aim of the course is to familiarize the student with the arrangement and use of the college library, and to supply a working knowledge of its equipment, which may guide his reading during the college course and later. Required in all courses but Veterinary Medicine. First semester, freshman year, two hours attendance, two credits.

Miss Corbett, Miss Shipley, Miss Todd

319.—Continuation of 318—Two hours attendance, two credits, second semester, freshman year. Miss Corbett, Miss Shipley, Miss Todd

320.—The Drama—Lectures are given on the principles of dramatic art, with particular attention to character study, plot development, and the contrast between ancient classics and modern romantic drama. Illustrative readings are used in class, several plays of Shakespeare being studied as models of dramatic art. Prerequisite, freshman English. Elective, two hours attendance, two credits, first semester. Miss Shipley

321.—American Literature—A study of the literary periods in our country, from colonial times to the present. Selections from the prominent American writers are chosen for class study, and additional library readings with reports are expected. Elective, second semester, junior year, two hours attendance, two credits, freshman English, prerequisite. May not be elected by students below junior standing except by permission of the head of the department. Miss Shipley

322.—Advanced Course in English Literature—Masterpieces from the poets of the seventeenth, eighteenth, and nineteenth centuries form the basis for class study. Collateral readings with reports are expected. Required in Home Economics course, first semester, senior year, three hours attendance, three credits. Miss Corbett

323.—English Literature—This is a continuation of 322. Special study is given to English prose forms. The works of the essayists and critics are followed by a study of English and American fiction. The novel is considered. Its structure and place in literature, and its service as a laboratory for character study are subjects for lectures. Special study is made of the short story. Required in course in Home Economics, five hours attendance, five credits, second semester, senior year. Miss Corbett

High School Students From All Over Northern Colorado Come to the College on High School Field Day

ENTOMOLOGY AND ZOOLOGY

CLARENCE P. GILLETTE	Professor
S. ARTHUR JOHNSON	Associate Professor
CHAS. R. JONES	Associate Professor
ELIZABETH ROBINSON	Instructor
W. L. BURNETT	Curator

351.—Physiology—Required in Agricultural Division second semester, Home Economics, first semester. Three hours attendance, three credits, freshman year. Text: "The Human Mechanism," Hough and Sedgwick. Miss Robinson

352.—Zoology—Required of the Agricultural Group and in Veterinary Medicine, alternative with mathematics in Home Economics. First semester, sophomore year, three hours attendance, three credits. Text: "College Zoology," by Hegner. Mr. Johnson

353.—Elementary Entomology—Required of students in Entomology, Horticulture, and Forestry. A study of the structure, habits and classification of the insect kingdom. Special attention is given to the habits of the more injurious species and the remedies that may be used to destroy them or prevent their depredations. Field excursions for observing insects under natural conditions. Classification and mounting of insects for permanent preservation. Over 100,000 mounted specimens of insects in the college collection. First semester, junior year, three hours class, three credits, and four hours laboratory, two credits. Text: "Elementary Entomology," by Sanderson and Jackson. Mr. Johnson and Mr. Jones

353A.—Elementary Entomology—Continuation of 353. Required in course in Entomology, second semester, junior year, three credits. Mr. Johnson and Mr. Jones

354.—Embryology—Required in the divisions of Agriculture and Veterinary Medicine. Study of the early stages in development, the general principles underlying the development of organic beings, and the laws of inheritance. Many references to outside reading will be given. First semester of the senior year. Two hours attendance for one-half semester, one credit. Mr. Gillette

355.—Forest Insects—A series of lectures on insects injurious to forest trees. Required in the Entomology course, second semester, senior year. Two hours attendance, one credit. Mr. Gillette

356.—Advanced Entomology—Required in the Entomology course, first semester, senior year, ten hours attendance, five credits. Text: Comstock's "Manual for the Study of Insects." Mr. Gillette and Mr. Jones

357.—Advanced Entomology—Continuation of 356. Second semester, senior year, ten hours attendance, five credits. Mr. Gillette and Mr. Jones

358.—Orinthology—A brief course in popular study of birds with their economic relations. Two hours attendance, two credits, second semester. Elective. Text: "Bird Life," by Chapman. Mr. Johnson

359.—Zoology Laboratory—Stress is laid upon the structure, habits, and relationships of the different groups of the animal kingdom. Definiteness and accuracy of observation required. Required of students in the

divisions of Agriculture and Veterinary Medicine. Four hours attendance, one and one-third credits, first semester, sophomore year. Fee, $1.00.
Mr. Jones and Miss Robinson

361.—Genetics—Two lectures a week during half the first semester of the senior year, dealing with the broad principles of development, the laws of heredity, and the application of these laws to the improvement of living things. Required in the divisions of Agriculture and Veterinary Medicine, two hours attendance, two credits. Mr. Gillette

362.—Eugenics—A course of ten lectures offered to woman students in the upper classes. Relates to the most recent discoveries in human heredity and the application of the laws of heredity to human progress.
Mr. Gillette

363.—Biological Entomology—A course in the biological aspects of entomology. Three recitation and two laboratory periods each week, five credits, second semester, elective. Text: "Entomology in its Biological and Economic Aspects," by Folsom. Mr. Johnson

364.—Insecticides and Fungicides—A course in the preparation and use of insecticides and fungicides in common use for the control of insect pests and plant diseases. Required in the course in Entomology, three hours attendance, two credits. Mr. Sandsten and Mr. Gillette

365.—Personal Hygiene—The principles and preservation of health; the causes and preventatives for prevailing ills. Physiology and Personal Hygiene are offered as an alternative with mathematics. Alternative in Home Economics course, two hours attendance, two credits, first semester, freshman year. Text: Brady's "Personal Health." Miss Robinson

A Happy Family at Lunch on the Campus During a Farmers' Meeting

FORESTRY

WALTER J. MORRILL........................
........Professor of Forestry and State Forester
BURTON O. LONGYEAR........................
..................Associate Professor of Forestry

401.—Elements of Forestry—A general survey of forestry simply presented in order that forestry students may coordinate the succeeding courses, and that other students may elect the course to gain general knowledge of the subject. Forestry defined and explained; need of forestry; history of conservation movement in the United States; the tree and its requirements; the forest and its influences; establishment and care of forests; forest protection, estimating timber; lumbering and wood utilization, wood preservation; forest finance; description of forest regions; identification of common Colorado trees and wood. Two hours attendance, two credits, first semester. Text: "Elements of Forestry," by Moon and Brown. Mr. Morrill

402.—Farm Forestry—Planned especially for agricultural students. Value of windbreaks; farm groves; identification of common trees and wood; valuing or estimating trees singly and in stands; establishing and tending windbreaks, groves; treatment and protection of wild timber lands; preservation of fence posts; ornamentation of the door-yard and school yard. Two hours attendance, and an occasional field trip by special arrangement, two hours credit, second semester. Text: Ferguson's "Farm Forestry." Mr. Morrill

403.—Dendrology—Systematic tree botany, or dendrology, to familiarize students with all of the commercial trees of the United States, and with many of minor importance. Points of comparison, and identification; ecology of trees, their commercial uses, planting and tending for ornamental and commercial purposes. Four hours attendance, two hours laboratory or field, three credits, first semester. Lectures and assigned

United States Forest Supervisors From Five States Gathered at the Colorado Agricultural College for a Conference

Office of State Forester and Professor of Forestry

reading, reports, local field excursions, and laboratory work on herbarium specimens. No text.
Mr. Longyear

404—Dendrology—Continuation of 403, which is a prerequisite. Four hours attendance, two hours laboratory or field, three credits, second semester.
Mr. Longyear

405.—Silvics—Anatomy and physiology of the tree. Development of the tree in height, diameter, volume, and form; forest ecology, types, forest regions, silvical characteristics, forest influences on climate, run-off; value of windbreaks. Lectures, assigned reading, reports, field excursions. Three hours attendance, three credits, first semester. Mr. Longyear

406.—Silviculture—Objects of silviculture; silvicultural systems; thinnings; silvicultural working plans; forest nursery; tree planting in Colorado; tree repair; visiting commercial nurseries; practical work in College nursery; preparation of silvicultural working plans in College forest. Lectures, assigned reading, reports. Three hours attendance, three credits, second semester. Text: Graves' "Principles of Handling Woodlands" and Toumey's "Seeding and Planting."
Mr. Longyear

407.—Forest Mensuration—Units employed. Construction of log rules. Methods of determining volume, age, and increment of trees singly and in stands. Construction of volume tables, growth tables, yield tables; practice in graphic representation of data. Field practice in estimating timber and in securing stem analyses. Further application of this course will be made in Course 412. Five hours attendance, three credits, second semester. Texts: "Forest Mensuration," Graves, and "Exercises in Forest Mensuration," Winkenwerder and Clark. Mr. Morrill

408.—Forest Engineering—Discussion of construction of forest telephone lines, roads and trails, fire lines, lookout stations, cabins, barns, fences, bridges, trestles, culverts, drains, flumes, trams, slides, splash dams, logging railroads. Topographic surveying with traverse board and Abney hand level, field practice, maps. Lectures, assigned reading, and small amount of field work by arrangement. Elective, two hours attendance, two credits, second semester. Mr. Morrill

409.—Forest Utilization—Utilization of minor forest products including fuel, fencing, poles, piling, ship lumber, railroad ties, cooperage stock, paving material, veneer, pulp wood, tan bark, products of wood distillation, naval stores. Two hours attendance, two credits, second semester. Lectures, assigned reading, and reports. Mr. Longyear

410.—Logging—Logging and lumbering. Woods' labor conditions; logging camps, tools and equipment; felling and log-making; log transportation, animals, power skidding, trams, slides, railroads, rafting and floating; costs and methods of logging in various forest regions. Sawmills, grading, seasoning; lumber markets, retail yards. Three hours attendance, three credits, second semester. Text: "Logging," by Bryant. Lectures. Mr. Morrill

411.—Lumbering Report—A week's inspection of logging camps, either with or without the instructor, and a full report following a prescribed syllabus prepared, covering methods of logging employed, costs, plan of camps. One credit, first semester, senior year. Mr. Morrill

412.—Fall Camp—During six weeks prior to the opening of the first semester, the seniors will camp in Pingree Park at the Forest Lodge to apply in field work the principles taught in Silviculture and Forest Mensuration. Elective, six credits. Mr. Morrill

413.—Forest Organization—Relation of forest management to silviculture; forest rotation from various points of view; the normal forest; methods for accomplishing sustained yield. Forest organization and administration. Forest working plans. Three hours attendance, three credits, first semester. Text: Roth's "Forest Regulation." Mr. Morrill

414.—Forest Valuation—Values; outlay and income, compound interest as applied in forest valuation; investments and costs in forest production; valuation of forests, forest statics; appraisal of damages; forest taxation; stumpage values; future values; risks; comparison of forest values with agricultural values. Three hours attendance, three credits, second semester. Text: "Forest Valuation," Roth.

The College Lodge on the College Forest Reserve in Pingree Park

415.—Forestry Seminar or Problems—Either a definite problem for research work will be assigned, or a seminar will be held to study special forestry subjects not mentioned in course of study, such as woodcraft, first aid, camp sanitation, horse packing, review for preparation to take Civil Service examinations. Two hours attendance, two credits, first semester, senior year. Mr. Morrill and Mr. Longyear

416.—Continuation of 415—Two credits, second semester. Mr. Morrill and Mr. Longyear

417.—History of Forestry—Fourteen lectures and quizzes covering briefly the development of forestry practices in Europe and America. One hour attendance, one credit, first semester. Text: "History of Forestry," by Fernow. Mr. Morrill

418.—Forest Policy and Administration of National Forests—State and federal forest and land laws. Forest Service regulations and administration of national forests. State versus private timber holdings; forest taxation; state and private cooperation in fire protection. One hour attendance, one credit, second semester. Lectures and assigned reading. Mr. H. N. Wheeler, Forest Supervisor, and Mr. Morrill

419.—Wood Technology—Structure of important woods; hardness, color, odor, grain, texture, density, and characteristic arrangement of wood cells studied in relation to identification and economic value. Mechanical properties of wood; laboratory practice in bending, compression, shearing, torsion tests; relation of knots, moisture, and structure of wood to strength. Five hours attendance, three credits, first semester. Texts: "Economic Woods of the United States," by Record; "Mechanical Properties of Wood," by Record. Mr. Longyear

420.—Forest Protection—Causes of forest fires and damages arising from them, methods of prevention and control; fire fighting equipment; fire plans; permanent improvements for fire protection; organization and administration. Insect devastation and control. Climatic damages to trees. Fungi and other pests. Tree repair. Two hours attendance, occasional field trips, two credits, second semester. Lectures. Mr. Morrill

421.—Tree Pathology—Tree diseases; methods of control. One hour attendance, one credit, second semester, senior year. Prerequisites, 103 and 401. Text-book work and specimens. Mr. Longyear

422.—Grazing—A consideration of livestock problems of the western ranges; forage grasses and their relative values; regeneration of depleted lands; permanent improvements on the range, and grazing administration. Prerequisite, 110. Two hours attendance, two credits. Lectures, required reading, and seminar. Mr. Morrill

423.—Spring Camp—Field work at Pingree Park, applying principles in courses 408, 413, 414, and 420. A portion of a working plan for a tract of timber will be prepared from the data obtained and from data obtained by previous classes. Two weeks. One hour credit, as part of time will be given to other courses for which credit is given; or two hours if course is given after close of second semester. Mr. Morrill

HOME ECONOMICS

INGA M. K. ALLISON	Professor
CHARLOTTE E. CARPENTER	Assistant Professor
EVELYN GERTRUDE HALLIDAY	Instructor
MIRIAM M. HAYNES	Extension Specialist
H. MAGDALENE HAHN	Instructor
BERYL DIXON	Instructor
NELLIE M. KILLGORE	Assistant
MARYETTA WILSON	Assistant

451.—The House—The site, surroundings, and construction of the house; house plans suited to typical community conditions, the farm house. Practice in drawing floor plans. The ventilation, heating and lighting of the house; the water supply; the disposal of wastes; the relation of the householder to health organizations. Lectures, recitations, laboratory practice. Required of Home Economics students, four hours attendance, four credits, first semester, freshman year. Miss Killgore

452.—The House (continued)—Sanitary, economic and aesthetic considerations in the selection of house furnishings. Period furniture in relation to present day requirements. The care of the house; the household budget and the purchase of supplies. The home as a social center. Lectures, class discussions, collateral reading. Prerequisite, 451 The House. Five hours attendance, five credits, second semester, freshman year. Required of Home Economics students. Miss Killgore

454.—Home Nursing—Includes the study of what to do in emergencies; the care of the sick, and the general care of the sickroom. Lectures and practical demonstrations. Required of Home Economics students, two hours attendance, two credits, first semester, senior year. Textbook: Robb's "Principles and Practice of Nursing." Miss Halliday

455.—Foods I—This course is intended as a preparation for later courses in foods, introducing the student to processes involved in cookery. Emphasis is placed on manual dexterity. Economy of labor through thoughtful use of utensils together with speed and quiet will characterize the work. Cookery is limited to the preparation of simple dishes, with special stress on seasoning, flavor, and attractiveness. Required of all Home Economics students not presenting entrance credits in domestic

Students Wearing Hats Which They Themselves Made science. Four hours attendance, two credits, second semester, freshman year. Fee, $2.00. Laboratory manual outlined by the department.

Miss Halliday

456.—Foods II—This course serves as a basis for all later work in foods. Composition and characteristics of food stuffs; underlying principle in methods by which heat is applied to food stuffs; consideration of usés and relative values of various types of cooking apparatus; selection of foods; significance of terms "brands" and "blends." Required of Home Economics students. Prerequisite, or accompanying subjects, 151-154 Inorganic Chemistry. Six hours attendance, three credits, first semester, sophomore year. Text: "Food Products," Sherman. Laboratory manual outlined by the department. Fee, $2.00. Miss Hahn

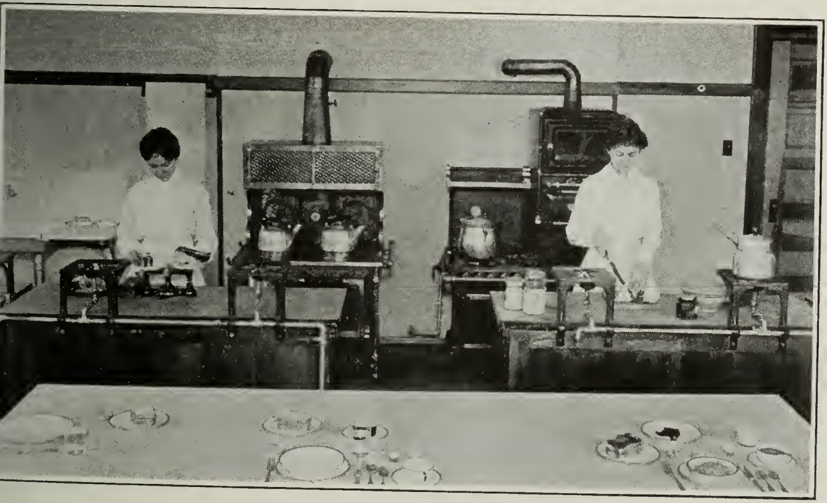
457.—Foods III—Continuation of Foods II. A special feature of Foods III is extensive work in meat cookery. Dressing carcasses and the curing of meats will constitute an important phase of the work. Four hours attendance, two credits, second semester, sophomore year. Fee, $2.00.

Miss Hahn

458.—Foods IV—The further development of principles and methods outlined in Foods II and Foods III. Food preservation; pure food laws. Extensive work with flour mixtures, including bread, cakes, and pastry. Required of Home Economics students electing the Domestic Science course. Prerequisite, Foods III. Preceded or accompanied by 155-158 Organic Chemistry. Eight hours attendance, four credits, first semester, junior year. Laboratory manual outlined by the department. Fee, $4.00.

Miss Halliday

459.—Dietetics—Includes a consideration of dietary standards; balanced ration; relation of food to health; special consideration of the adjustment of quantity and quality of food necessary to the meeting of the varying conditions of age, occupation, health, etc. Required of Home Economics students electing Domestic Science. Prerequisites, Foods IV



In the Cooking Laboratory

and Organic Chemistry. Four hours attendance, two credits, first semester, senior year. Texts: "Chemistry of Food and Nutrition," by Sherman, and Jordan's "Principles of Human Nutrition." Miss Allison

460.—Serving of Meals—This course provides for the application of principles developed in courses of foods, including the cooking and serving of meals, and the preparation of school and picnic lunches. Wholesomeness of food served, attractive serving, and the estimate of cost of food prepared are invariable features of the work. Required of Home Economics students electing Domestic Science. Prerequisites, Foods IV and Dietetics. Six hours attendance, three credits, second semester, senior year. Fee, $2.00. Laboratory manual outlined by the department. Text: "Feeding the Family," Rose. Miss Allison and Miss Hahn

461.—Problems in Dietery Calculation—An advanced course in dietetics to be carried on as a laboratory course. Elective, four hours attendance, two credits, second semester, senior year. Prerequisite, 459. Fee, $2.00. Laboratory manual, "A Laboratory Hand-book of Dietetics," Mary Swartz Rose. Miss Allison and Miss Halliday

462.—Camp Cookery—The selection and preparation of food supplies especially suited to camping conditions. Offered to men. Two hours attendance, one credit, second semester. Fee, $2.00.
Miss Allison and Miss Hahn

463.—Sewing I—A study of the principles underlying correct position and methods of working, the tools, the equipment and the subject-matter best suited to elementary and secondary schools. The course also aims to secure increased accuracy, speed, independence, and capability in hand sewing. Required of all Home Economics students, six hours attendance, three credits, first semester, freshman year. Fee, $1.00. Miss Dixon

Testing Purity of Fabrics

Millinery

464.—Sewing II—The approach is the same as that indicated under Sewing I. The use of the machine in the fashioning of muslin garments. Required of Home Economics students, four hours attendance, two credits, second semester, sophomore year. Prerequisite, Sewing I. Fee, $1.00.
Miss Dixon

465.—Textiles I—Study of historical development of textile industries; weaves and weaving; household, microscopic, and chemical tests for characteristics of textile fibers. The adulteration of fabrics. Required of Home Economics students electing Domestic Art, four hours attendance, two credits, first semester, junior year. Prerequisites, Sewing I and II. Preceded or accompanied by Organic Chemistry. Fee, $1.00. Text: "Textiles," by Woolman and McGowan.
Miss Halliday

466.—Textiles II—Continuation of Textiles I. Study of materials used in the laundry, including soaps, bluing, starches; the laundering of wool, silk, cotton, and linen fabrics; laundry and light tests for colored wash fabrics; consideration of economic and hygienic aspects of textiles. Four hours attendance, two credits, second semester, junior year. Fee, $1.00.
Miss Halliday

467.—Textiles III—Application of color to materials, stenciling, block-printing, basketry. Prerequisites, Textiles 465 and 466. Elective, four hours attendance, two credits. Fee, $1.00.
Miss Killgore

468.—Drafting—Drafting and testing of patterns, and application of the draft in a simple house dress. Required of Home Economics students electing Domestic Art, six hours attendance, three credits, first semester, junior year. Prerequisites, Sewing I and II. Laboratory manual arranged by the department. Fee, $1.00.
Miss Carpenter

469.—Dressmaking I—Designing of garments and the making of a simple wool dress. Required of all Home Economics students electing

Domestic Art, four hours attendance, two credits, second semester, junior year. Prerequisites, Textiles I and II, and Design and Drafting. Fee, $1.00.
Miss Dixon and Miss Carpenter

470.—Dressmaking II—Further application of principles set forth in 468 and 469, with especial consideration of line and color. The making of an afternoon gown, using light weight fabrics. Required of Home Economics students electing Domestic Art, six hours attendance, three credits, second semester, senior year. Prerequisite, Dressmaking I. Fee, $1.00.
Miss Carpenter

471.—Art Needle Work—Making of needle work sample book; design and practical work in embroidery. Elective, four hours attendance, two credits, second semester, senior year. Prerequisites, Sewing I and II. Fee, $1.00.
Miss Carpenter

472.—Millinery—The making and covering of a buckram frame; the making of a wire frame and sewing of straw braid. Required of Home Economics students electing Domestic Art, four hours attendance, two credits, first semester, senior year. Prerequisites, Sewing I and II. Fee, $1.00.
Miss Carpenter

473.—Tailoring—The making of a wool, tailored suit. Elective, four hours attendance, two credits, first semester, senior year. Prerequisite, Dressmaking I. Fee, $1.00.
Miss Carpenter

474.—Demonstration Course—This course provides an opportunity for the student to present in a public way problems in cookery, laundry practice, and sewing. Demonstrations that shall suit typical state conditions are planned and given by the individual student. Prerequisites, Foods I, II, III, and Sewing I and II. Required of Home Economics students, four hours attendance, two credits, second semester, junior year. Fee, $2.00.
Miss Allison and Miss Carpenter

475.—Teachers' Course—A consideration of methods of presentation, the principles underlying the planning of curricula and equipment, practice in planning of curricula and equipment to meet typical conditions in the state, and observation of teaching in the School of Agriculture at the college, and of teaching in nearby towns. Required of all Home Economics students. Three hours attendance, three credits, first semester, senior year. Prerequisite, courses in Home Economics offered in the freshman and sophomore years. Text: "Domestic Art in Woman's Education," Cooley, and "Equipment for Teaching Domestic Science," Kinne.
Miss Allison and Miss Carpenter

476.—Household Economy—The historical development of the home; the present relation of the home to the community; problems of the modern household, economic and social. Open to junior and senior students, two hours attendance, two credits, second semester. Lectures, collateral reading, class discussion.
Miss Allison

477.—Special Problems—An opportunity for the working out of special problems that arise along home economics lines, and for which students are prepared by training and prerequisite work of the first three years of college. Elective, four hours attendance, two credits, second semester, senior year. Fee, $2.00.
Miss Allison and Miss Carpenter

478.—Institutional Cookery—Courses in institutional cookery will be offered the first and second semesters 1917-1918. Elective, two credits junior and senior years. No fee.

HORTICULTURE

E. P. SANDSTEN	Professor
R. A. McGINTY	Assistant Professor
J. J. GARDNER	Assistant Professor
H. GOODACRE	Instructor

501.—Plant Propagation—This subject is required of all agricultural students. Methods and practices employed in propagating plants; a brief study of the cultural methods used in the growing of orchards and garden crops in Colorado. Four hours attendance, two credits, second semester, sophomore year. Text: Bailey's "Nursery Book" and "Laboratory Manual of Horticulture," Hood. In addition, the students are required to read "Fruit Growing in Arid Regions," Paddock and Whipple. A complete set of notes is also required. Mr. Sandsten

502.—Vegetable Gardening—The history, classification, development, culture, and methods of improvement of the various garden vegetables. The general adaptability of the different garden crops for home use and commercial production, and to their adaptation to the different districts of the mountain states particularly. Notes, and outside reading in bulletins and other publications relating to the subject. Three hours attendance, three credits, second semester, junior year. Required in Horticulture. Text: "Garden Farming," Corbett. Mr. Gardner

503.—Small Fruits—A systematic study of the history, methods of culture, grading, packing, and marketing of small fruits. Required of horticultural students, two hours attendance, two credits, first semester, junior year. Text: Card's "Bush Fruits," Revised Edition.

Mr. Gardner

504.—Pomology—A systematic study of the orchard fruits classification, history, principles and practices as they obtain in different sections of the country. Special emphasis is placed upon the problems of fruit growing in the irrigated Rocky Mountain fruit districts. Required of

A Class in Gardening in the Greenhouse

horticultural students, first semester, senior year, three hours attendance, three credits. Lectures. Texts: "Productive Orcharding," Sears; "The Apple," Wilkinson. In addition, students will be required to read, "Principles of Fruit Growing," Bailey. Mr. Sandsten

505.—Pomology Laboratory—A systematic study of different varieties of apples, pears, peaches and plums, their description and classification. Actual work in grading and packing, selecting and preparing fruits for exhibition, and practice work in judging. Taken in connection with course 504. First semester, senior year, three hours attendance, one credit. Mr. Sandsten

506.—Thesis—This course is offered only to senior students in Horticulture. Some special problem or experiment is taken up and completed. No class work is required, but aside from performing the laboratory work connected with the problem—outside reading is required. At the end of the semester, the student is required to present the result of the work in manuscript form. Elective, second semester, senior year, three hours attendance, one credit. Mr. Sandsten

507.—Floriculture—Lectures on general greenhouse construction and management, composition of soils for greenhouse plants; the history, classification, development, propagation, and methods of manipulation and culture of the various florists' crops. The care of house plants and the growing of flowers out-of-doors. Required of horticultural students, two hours attendance, two credits, first semester, senior year. Must be accompanied by 508. Text: "Principles of Floriculture," White. Mr. Gardner

508.—Floriculture Laboratory—Given in connection with 507. Actual work connected with the recognition and manipulation of greenhouse plants. Notes of the work are required to be kept for reference. Required of horticultural students, first semester, senior year, two hours attendance, one credit. Mr. Gardner

509.—Landscape Gardening—Different styles of landscape gardening, and their adaptation to the various forms of architecture and locations. Special emphasis is placed upon the study of hardy shade trees, shrubs and perennials, and their grouping. Subject adapted to the conditions in Colorado. Accompanied by course 510. Required of horticultural students, two hours attendance, two credits, second semester, senior year. Mr. Gardner

510.—Landscape Gardening Laboratory—Taken in connection with 509. Measuring and laying out private and public grounds; preparing plans and specifications; furnishing estimate of cost and general working plant for planting. Familiarization with the names and habit of the various trees and plants used in landscape gardening. Visits will be made to places where object lessons may be obtained. Second semester, senior year, three hours attendance, one credit. Mr. Gardner

511.—Forcing Vegetables and Fruits—Theory and practice of growing fruits and vegetables under glass, and the possibilities that are open along that line. Lectures and laboratory work in which the student is required to do as much as possible of the actual work connected with the growing of the crops. Required in the horticultural course; not elective in other courses. Two hours attendance, two credits, second semester, senior year. Reference books, "The Forcing Book," Bailey, and "Fruits and Vegetables Under Glass," Turner.

Mr. Gardner

512.—Experimental Horticulture—Experimental methods as practiced in the experiment stations, to tabulate results, and presenting the same in bulletin form. A critical study of experiment station bulletins and reports. Assigned reading and reports. Required of horticultural students; not elective for others. Three hours attendance, three credits, second semester, senior year.

Mr. Sandsten

513.—Plant Evolution and History of Cultivated Plants—A critical review of past and current literature on plant evolution, and a more detailed study of horticultural plants, their origin and economic importance. Required of horticultural students; not elective. Second semester, senior year, two hours attendance, two credits. Text: Bailey's "Survival of the Unlike."

Mr. Sandsten

LANGUAGE

SARAH I. KETTLE........................Professor

551, 552.—First Year French—A course in grammar, prose composition, reading and conversation. Alternative required of sophomores in Home Economics course. Five hours attendance, five credits each semester. Text: Chardenal's "Complete Course." Selected reading.

Miss Kettle

553, 554.—Second Year French—A course in reading and conversation. This includes a critical study of modern French prose and scientific literature. Phonetics. Prerequisites, 551, 552. Elective, five hours attendance, five credits each semester.

Miss Kettle

555, 556.—First Year Spanish—A course in grammar, prose composition, reading and conversation, with especial emphasis placed on making this language of practical use to those whose work will take

Graduates and Former Students of the Colorado Agricultural College Now Holding Responsible Positions in Extension Work

them among Spanish-speaking people. Alternative, required of sophomores in Home Economics course. Five hours attendance, five credits each semester. Text: Hills and Ford's "Spanish Grammar."
Miss Kettle

557, 558.—A three hour course the aim of which is to give to the student a systematic knowledge of Spanish grammar, so that the language may be quickly and correctly acquired. Miss Kettle

559, 560.—First Year German—A course in grammar, pronunciation, and reading. Offered alternately in odd years with 561, 562. Elective.

561, 562.—Second Year German—Reading selected masterpieces of German prose; conversation. Offered alternately in even years with 559, 560. Prerequisites, 559, 560. Elective.

563, 564.—German—Offered for those who wish to continue the subject in college. This course aims to make a practical application of the German already studied and includes prose composition, phonetics, conversation, and the reading of current literature, especially scientific bulletins and newspapers. Prerequisites, a good general knowledge of German grammar. Elective, five hours attendance, five credits each semester.

565, 566.—Scientific German—A practical course designed primarily to fulfill the needs of those who wish the working knowledge required to read German technical literature. The aim of the course is to secure proficiency in the reading and translation of scientific German. Prerequisite, a good knowledge of German grammar. Elective. Three hours attendance, three credits.

Note: The five-hour courses in second year French and German are divided into divisions of three hours and two hours. Students may elect one without the other.

LIBRARY

CHARLOTTE A. BAKER	Librarian
MARION V. HIGGINS	Assistant
CLARA A. GLIDDEN	Assistant
ETHEL HULL	Assistant

Location and Building.—The Library is south of the group of mechanical buildings and faces the men's tennis courts. It is entered through a central hall which is arched into a reading-room eighty by fifty feet. This general reading-room has windows on three sides and three skylights, making it exceptionally well lighted and ventilated. Stacks abut from the walls forming alcoves along the windows. The tables in the alcoves and throughout the room give a seating capacity for one hundred and seventy-five.

At the left as you enter the hall, is the agricultural document reading-room. The second door at the right leads into the stack for the books which circulate. In the basement, is a room for debate work, an additional stackroom for documents, and rooms for duplicate periodicals and books.

Books and Arrangement.—The college library is for the use of the entire college. It now numbers about 40,000 books and 50,000 pamphlets, and consists of a general library and eleven departmental libraries. The aim is to build up a good working collection along scientific and technical lines. The experiment station has its library in a separate building.

In the Main Reading-room are the reference books, the reference periodicals with such magazine indexes as Poole, Readers' Guide, Readers' Guide Supplement, Industrial Arts Index, Agricultural Index, and various general indexes. This room also shelves the publications of the United States Bureau of Education, the United States Geological Survey and Smithsonian Institution. The books and periodicals in this room are placed here, because they have a special value for reference work. They answer many questions directly and provide a starting point for more extended research. Every student should become familiar with the general encyclopedias, statistical compilations, and periodical indexes.

In the **Agricultural Document Reading-room** are collected the publications of the United States Department of Agriculture, together with the publications of the various state experiment stations and state boards of agriculture. This room also has the government card catalog of the state experiment station publications, and all government indexes.

Books which circulate are shelved in the main floor stack. They are arranged according to the Dewey scheme of classification. The shelves are labeled. If you can not find what you need, use the dictionary card catalog, or ask for help at the lending desk.

The **Dictionary Card Catalog** is opposite the lending desk at the entrance to the main reading room. Printed directions for its use are above this catalog. As far as is possible Library of Congress cards are bought for this catalog.

Gifts.—From time to time, the library has received gifts of private collections. These now consist of the Annie Jones, Louis B. France, and Barton O. Aylesworth collections, and the Theodosia Ammons Memorial

The Reading Room of the Library

Library. It occasionally receives gifts of separate volumes and documents of especial value.

Two hundred fifty-two newspapers and periodicals are regularly donated to the library. Most of the papers of the state, besides a large number of technical papers from the United States and other countries are included in this list.

Documents.—By United States law, all agricultural libraries are depositaries. This means that they are "authorized to receive copies of every publication printed by the government and made for distribution. All such books and documents, when received at their proper libraries, shall be kept there and not removed from their places." Library of Congress cards have been bought for all government publications as far as has been possible. All of these documents are arranged according to the government scheme of classification.

Library Regulations.—All students who have paid their library fee are entitled to borrow books. The town people may borrow books by paying ten cnts for each book or pamphlet, and may have the free use of the reference room.

Books are not lent for a fixed period. A book which at one time may be borrowed for two weeks, at another time may be in reserve and can not be taken from the library except for the periods when the building is closed.

Reserved books are books which are shelved back of the lending desk at the request of an instructor, or by the library when they prove to be in active demand by a number of students, all of whom have an equal right to their use. Books that are in circulation must often be called in to be placed on the reserve shelves. Do not assume you can get the use of a reserved book the evening before an assignmnet is due. Too many others may do the same. To be sure, you may have a book when you have a free hour, come into the library and engage it ahead by signing the proper application. Books may be engaged for not more than four days in advance of their use. Reserved books are lent for reference use for **one period.**

Fines.—Fines on reserved books are ten cents for the first fifteen minutes; five cents for the second, third, and fourth fifteen minutes; and five cents for each subsequent hour. Fines on all other loans are five cents a day for each separate book and pamphlet. To know when your book is due, examine the last date on your card, or the date on your special arrangement slip.

The Library Staff.—The library staff is for the use of the students and will cheerfully give all assistance possible to the student body. As this is a small library, the staff must be busy at odd minutes with clerical work, but this work will be dropped whenever a student needs help. No student should hesitate to make his wants known.

Library Hours.—The library is open on college days from 8:00 a. m. to 9:30 p. m. excepting 12:30 p. m. to 1:00 p. m., and 6:00 p. m. to 7:00 p. m. On Saturdays the library closes at 5:30 p. m.

Vacation hours are from 9:00 a. m. to 12:00 m., and 1:00 p. m. to 4:00 p. m.

Inter Library Loans and Extension.—Books not needed at the college for other work, and not subject to special restrictions, will be lent to other libraries in the state for the use of their patrons. Where no library exists, books will be lent to responsible individuals or schools. The library will be pleased to answer questions, make out reading lists, or render other assistance when possible.

Books not on our shelves, or not within the scope of our purchases, frequently can be borrowed from other libraries. These loans are not made to individuals but to the library, and must be arranged for through some member of the library staff. Carriage must be paid both ways by the borrower.

Course in the Use of a Library.—This course teaches by the means of lectures and practical problems the use of catalogs, indexes, and reference books. Work with documents is emphasized. It is not designed to train librarians, but to teach students how to use books readily and intelligently. This is an elective, requiring three hours laboratory work and one recitation a week. Two credits. Student assistants for the library are usually chosen from this course. Text: Hopkins' "Reference Guides That Should Be Known and How To Use Them."

Lectures to Freshmen.—Lectures giving general directions about the use of the library are given to the freshman students, in small groups. Each group is given three lectures.

MATHEMATICS

S. L. MACDONALD........................Professor
PIERRE ROBINSON......................Instructor

The work in mathematics is designed not only to meet the practical needs of the engineer, but also to furnish the curriculum with a strong factor for education and culture. The subject is continuously taught through the freshman and sophomore years.

601.—Solid Geometry—This study is intended for students who have passed the accredited high school with credit for Plane Geometry only. The treatment of lines, planes, and angles in space, as a fundamental for Descriptive Geometry, and also the geometry of the sphere, as leading to Spherical Trigonometry, are features of the work. Required in Mechanic Arts division. Prerequisite, entrance requirements. Three hours attendance, freshman year, first semester. Text: Wentworth and Smith's "Solid Geometry." No college credit is given.
Mr. Macdonald

602.—College Algebra—After a brief review of quadratic equations, he following topics are taken up and treated in the order given: binomial heorem, the progressions, complex numbers, and the theory of equations. Graphical representation is frequently used. Required in Mechanic Arts nd Agricultural divisions, alternative in Home Economics. Five hours ttendance, two and one-half credits, first half first semester, freshman ear. Text: Rietz and Crathorne's "College Algebra."
Mr. Macdonald and Mr. Robinson

603.—Plane and Spherical Trigonometry—Preference is given to eometric rather than analytic methods in the development of the formuae of this subject. A thorough drill in the use of logarithms comes incientally in dealing with the general plane and spherical triangles. Special attention is given to practical applications in surveying, geodesy, and astronomy. Prerequisite, entrance requirements. Required in Agricultural and Mechanic Arts Divisions, and an alternative in Home Economics. Five hours attendance, two and one-half credits, second half of first semester, freshman year. Text: Granville's "Trigonometry."

Mr. Macdonald and Mr. Robinson

604. Analytic Geometry—The following topics are treated in the order given: co-ordinates, fundamental metrical formulas, plane loci and their equations, the straight line, standard equations of the second degree, trirgonometric and exponential functions, parametric representation, conic sections and general equation of the second degree, empirical equations, loci in three dimensions, the plane and straight line, an elementary treatment of the quadric surfaces and the most important, space curves. Required in Mechanic Arts division. Prerequisites, 602, 603. Five hours attendance, five credits, freshman year, second semester. Text: Bocher's "Analytic Geometry."

Mr. Robinson

605.—Differential Calculus—The doctrine of limits is here regarded as the foundation of the calculus and as the entrance to higher mathematics. The derivative is rigorously developed and afterwards interpreted as a rate, a slope to a curve, and as a differential. Much time is given to the applications to the problems in engineering science and practice. Required in Mechanic Arts division, five hours attendance, five credits, first semester, sophomore year. Text: Snyder & Hutchinson's "Elementary Textbook on the Calculus."

Mr. Macdonald

606.—Integral Calculus—Continuation of 605. The integral is treated first as the inverse of the differential and then as a process of summation. Each problem is regarded as a sort of formula which may be used in the solution of succeeding problems. Special attention is given

A Bird's Eye View of Colorado Field, the Best Athletic Field in the Rocky Mountain Region to length of curves, areas, surfaces, solids, water pressure, averages and center of gravity. Required in Mechanic Arts division, five hours attendance, five credits, second semester, sophomore year. Mr. Macdonald

607.—Astronomy—This course is offered even-numbered years as Descriptive Astronomy; and odd-numbered years as Engineering Astronomy. The department has an observatory equipped with a four-inch refracting equatorial telescope, and a fair reference library. The course is open to upper classmen upon consultation. Prerequisite, 603. Three hours attendance, three credits, second semester. Mr. Macdonald

608.—Method of Least Squares—Designed for students in Civil Engineering. Prerequisites, 604, 605. Elective, two hours attendance, two credits, second semester. Text: Merriman's "Method of Least Squares."
Mr. Macdonald

609.—Graphical Methods—Designed for students in Electrical Engineering, special attention being given to complex number and hyperbolic functions. Prerequisites, 605, 606. Elective, two hours attendance, two credits, second semester. Text: Moulton's "Introductory to Astronomy."
Mr. Macdonald

MECHANICAL ENGINEERING

*J. W. LAWRENCE	Professor
L. D. CRAIN	Professor and Head of Department
ALBERT CAMMACK	Associate Professor
S. I. ROSS	Instructor
H. J. WILSON	Instructor
R. A. BRADLEY	Instructor
H. A. SCHOTT	Instructor

651.—Carpentry and Joinery—Textbooks and lectures. Study of the cutting edges of various wood-working tools and the means of keeping them in good order; an explanation of the construction of each tool and its manner of acting on the material; the shrinkage and warping of woods and the different modes of sawing into lumber, and the various forms and uses of framing and other joints. The strength of various timber joints in building construction is considered. Required of students in Mechanic Arts division, first semester, freshman year, one hour attendance, one credit. Text by Goss.
Mr. Wilson

652.—Drawing—Care and use of instruments and the making of practice drawings. Lettering. Problems in orthographic and isometric projections and the development and intersection of surfaces. Required of students in Mechanic Arts division, first semester, freshman year, six hours attendance, two credits. Text by French. Mr. Ross

653.—Bench Work in Wood.—Embraces the manipulation of the tools in their various application. Students work from drawings. Cases, benches, boxes, foundry flasks, and a variety of other useful articles are made. Required in Agricultural and Mechanic Arts division, first or second semester, freshman year, six hours attendance, two credits. Fee, $2.00.
Mr. Wilson

654.—Machine Work in Wood—There are given examples of straight turning; cutting in and squaring off; concave, convex, and compound curves; handles for chisels and other tools, and examples in chuck work in separate and combined pieces. Required in the Mechanic Arts division, first semester, freshman year, four hours attendance, one and one-third credits. Fee, $1.00. Mr. Ross

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*On leave of absence.

655.—Drawing—The sketching of machine parts and the making of working drawings, tracings, and blue prints from these sketches. Required in Mechanic Arts division, second semester, freshman year, six hours attendance, two credits. Prerequisite, 652. Mr. Ross

656—Forge Work—Students are carried through a series of carefully graded exercises in both iron and steel, working from drawings in each instance. The students are taught how to bend, twist, upset, draw, and weld iron and steel, how to anneal, case harden, temper, braze, etc. Many pieces are made which are put to a practical use. Required in the Agricultural and Mechanic Arts divisions first or second semester, freshman year, six hours attendance, two credits. Fee, $3.00.

Mr. Schott

657.—Descriptive Geometry—The principles of projection, intersection, development, etc., illustrated by a great variety of problems accurately worked out on the draughting board by each student. Required in the Mechanic Arts division, first semester, sophomore year, five hours attendance, five credits. Prerequisite, 655. Text by Miller.

Mr. Cammack

658—Boilers—The various forms are carefully studied. Injectors, pumps, condensers, feed-water heaters, and economizers receive special consideration. Chimney draft and mechanical draft are studied and compared with regard to their relative efficiencies. Required in the Mechanical Engineering course, first semester, junior year, three hours attendance, three credits. Text by Parsons. Mr. Crain

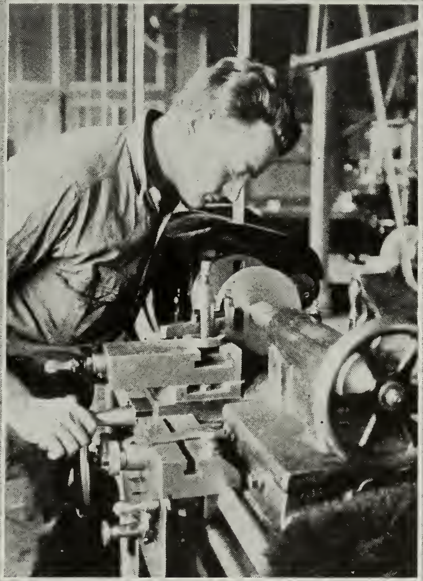
659—Principles of Mechanism—Study of designs for the communication of motion by means of gears, belts, linkage, etc.; methods of designing parallel motions, quick return motions, and cone pulleys. The adaptation of the formation of gear teeth of the involute, the epicycloid, the logarithmic spiral and other curves. Required in Mechanical Engineering course, junior year, first semester, three hours attendance, three credits. Prerequisite, Mathematics 603. Text by Sibley.

Mr. Cammack

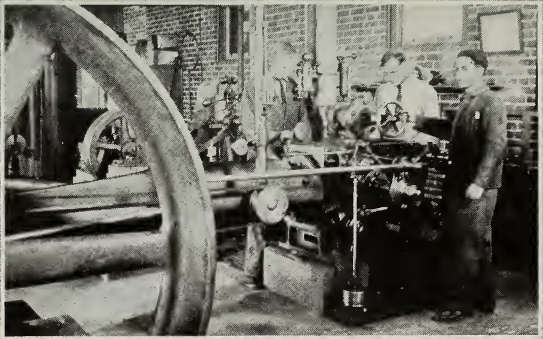
660—Internal Combustion Engines—Theory and construction of gas and oil engines, igniters, governors, etc. The study of traction and portable gas and oil engines, such as are used in industrial plants, upon contracting work and upon highways and farms. The study of automobile engines. Elective, first semester, senior year, three hours attendance, three credits. Prerequisites, Chemistrty 151, Physics 705. Text by Streeter. Mr. Cammack

661—Kinematic Drawing and Machine Design—Drafting room work taking up practical applications of problems in pure mechanics and kinematics, also the design of elementary machine fastenings such as set screws, bolts, keys, gibs and cottlers. Elective, second semester, junior year, four hours attendance, four credits. Text by Reid and Reid.

Mr. Cammack



At the Lathe



In the Mechanical Engineering Laboratory

Where Anvils Ring and Sparks Fly as Rough Iron Takes Shape

662.—Foundry—Students are taught by lectures, recitations and actual work, how to charge and manage the cupola, brass furnace, and core oven. Castings of brass, iron and other metals and alloys are made. Required in Mechanical Engineering course, first semester, junior year, six hours attendance, three credits. Fee, $2.00.
Mr. Cammack and Mr. Bradley

663.—Pattern Making—Examples of plain work; core work; pulley work; pipe work; gear work; core boxes, their use and construction, are given. Required in the Mechanical Engineering course, first semester, junior year. Four hours attendance, two credits. Fee, $1.00.
Mr. Ross

664.—Machine Shop Tools—Textbook and lectures. The aim is to familiarize the student with up-to-date methods under various conditions of practice and with such machines and appliances as do not come under his immediate observation in our shops. Elective, second semester, junior year, two hours attendance, two credits. Text by Vandervoort.
Mr. Cammack

665.—Machine Design—Includes designs of rivited joints, shaft and pipe couplings, bearings, etc. Elective, first semester, junior year, six hours attendance, three credits. Text by Reid and Reid. Mr. Cammack

666.—Machine Work in Metals—A shop course comprising bench, drill press, shaper, planer, lathe and milling machine exercises. Also the rules governing the use and care of small tools, accurate measurements, finishing, cutting speeds, and general principles underlying the operation of all classes of machine tools are presented. Prerequisite, 653, 654, 656, 662. Required in Mechanical Engineering course, second semester, junior year, ten hours attendance, three and one-third credits. Fee, $2.00.
Mr. Cammack

667.—The Steam Engine and Valve Gears are studied in their various forms in detail. The department has appliances necessary for complete engine tests. Careful attention is given to the study of valves. The study of traction and portable steam engines, such as are used in industrial plants, upon contracting work and upon highways and farms. Various types of steam turbines are taken up and comparisons made with reciprocating engines. Required in the Mechanical Engineering course, first semester, senior year, three hours attendance, three credits. Text by Ripper or Furman. Mr. Crain

668.—Thermodynamics—A study of the laws of thermodynamics as applied to steam engines, gas engines, air compressors, injectors, and other appliances. Required in Mechanical Engineering course, second semester, junior year, three hours attendance, three credits. Prerequisite, 605. Text by Meyer and Calderwood. Mr. Crain

669.—Transmission of Power—A study of the various forms of power transmission in shops and factories; belt, rope and chain transmission. Elective, first semester, junior year, two hours attendance, two credits. Prerequisite, 603. Mr. Crain

670.—Machine Design—A course in the proper designing of various machine parts and complete machines. Elective, first semester, senior year, three hours attendance, one and one-third credits.
Mr. Cammack

671.—Specifications and Contracts—Complete working drawings for some particular problem are made, the specifications are made, and a form of contract for such a problem is carefully worked out. Study of the laws governing contracts and specifications. Elective, first semester, senior year, two hours attendance, two credits. Text by Johnson.
Mr. Crain and Mr. Davis

672.—Seminar—The consideration of articles of interest appearing in the current technical papers and magazines. Elective, first semester, senior year, one hour attendance, one credit. Mr. Crain

673.—Materials of Machines—The study of combustion, fuels, furnaces, and refractory materials, especially the metallurgy of iron and steel. A study of the chemical and physical properties of the metals and alloys used in machine construction; heat treatment of steel. Prerequisite, Chemistry 151. Elective, second semester, senior year, two hours attendance, two credits. Text by Smith. Mr. Crain

674.—Machine Shop—Required in Mechanical Engineering course, first semester, senior year. Six hours attendance, two credits. Prerequisite, 666. Fee, $1.00. Mr. Cammack

675.—Machine Shop—Elective, second semester, senior year. Prerequisite, 666. Four hours attendance, one and one-third credits. Fee, $1.00. Mr. Cammack

676.—Engineering Design—The design and arrangement of power plants, shops and factories. Required in Mechanical Engineering course,

Finding Quality of Steam With Barrel Calorimeter second semester, senior year, six hours attendance, three credits. Prerequisite, 661. Mr. Cammack

677.—Railway Mechanical Engineering—The design and construction of locomotives, the operation of the airbrake, and the study of different forms of signals and switches. Elective, first semester, senior year, two hours attendance, two credits. Text by Wood. Mr. Crain

678.—Heating and Ventilation—The study and design of various forms of heating and ventilation in common use in modern buildings. Prerequisite, Chemistry 151 and Physics 707. Required in Mechanical Engineering course, second semester, senior year, three hours attendance, three credits. Text by J. D. Hoffman. Mr. Crain

679.—Steam Engine Design—It is the endeavor to have this work conform to the best modern practice, and to supplement the instruction given, by requiring the student to investigate existing engines with regard to their design and construction. Blue prints of drawings furnished by prominent manufacturers are also used, and show the prevailing forms of engines in use. Elective, second semester, senior year, three hours attendance, three credits. Prerequisites, 667, 661. Mr. Crain

680.—Compressed Air Machinery—The study of motors, compressors, hoists, and various air tools. Elective, second semester, senior year, two hours attendance, two credits. Prerequisite, 667. Text by H. J. Thorkelson. Mr. Crain

681.—Seminar—Continuation of 672. Elective, second semester, senior year, one hour attendance, one credit. Mr. Crain

682.—Thesis—Elective, first semester, senior year, four hours attendance, two credits. Mr. Crain

683.—Thesis—Each senior is assigned a subject, which he is to investigate and upon which he must write a satisfactory thesis. Second semester, senior year, four hours attendance, two credits. Mr. Crain

684.—Refrigeration and Refrigerating Machinery—The study of methods of producing low temperatures by artificial means, and the study of refrigerating machinery. Elective, second semester, senior year, two hours attendance, two credits. Prerequisite, 667. Lectures. Text by Green. Mr. Cammack

686.—Mechanical Engineering Laboratory—Investigations of the physical properties of materials of construction entering into buildings, machinery and other structures; test and examinations of different kinds of boilers, engines, pumps, etc. Required in Mechanical Engineering course, second semester, senior year, six hours attendance, three credits. Prerequisite, 667, 674. Mr. Crain

Visits of Inspection—During the senior year, the students make visits of inspection to large industrial establishments of the state, in charge of an instructor. These visits are intended to be of educational value and to supplement the work done at the college and to show the students the practical application of many things taught in the classroom. Required in Mechanical Engineering course, second semester, senior year.

MILITARY TACTICS

T. J. J. CHRISTIAN, Lieutenant, U. S. A....Professor
*J. A. ROGERS, Lieutenant, U. S. A..........Professor
W. L. BEVAN, Captain.......................... ....Assistant Instructor and Armorer
JOSEPH DRESCHER, Sergeant First Class Signal Corps, United States Army, retired
R. P. DUNHAM, Sergeant Twelfth Infantry, United States Army
W. B. TORREY, Sergeant Twenty-sixth Infantry, United States Army

By act of Congress, July 2, 1862, the Federal Land Grant Colleges are required to teach military science and tactics. Under faculty regulations, all male students except seniors are required to carry certain prescribed courses. The Department of Military Science and Tactics of the institution has been, by application of the State Board of Agriculture, included in the Reserve Officers' Training Corps, act of Congress, June 3, 1916.

Training Camp.—A camp is held during spring vacation, and all who attend this camp during the freshman and sophomore years are not required to drill in their junior year. The expenses of this camp are paid by the War Department. All juniors and seniors who elect to take the Advanced Course Reserve Officers' Training Corps and are recommended by the military department and the president of the college, will be permitted by the President of the United States to pursue such course, during their junior and senior years, and will receive from the United States commutation of subsistence. Three credits per semester are given toward graduation.

No Oath of Service.—No oath of service is required to pursue this course; each man agrees to complete the course, after which he may be

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*Resigned.

The Members of the Officers' Reserve Corps Will Spend Two Weeks in Camp Each Summer

A Squad of Cadets in Action

commissioned by the President, a second lieutenant of the Officers' Reserve Corps of the United States army, and may upon graduation go for service with the regular army, with the rank and allowances of a second lieutenant and $100.00 per month pay for a period of six months. Should he desire to continue in the service of the United States as an officer, he may be commissioned upon successfully passing an examination in four subjects: Elementary French, German or Spanish, World's History, Surveying, and a fourth elective subject, Advanced English, French, German or Spanish, Analytics, Calculus, Advanced Surveying, or Military Art and Field Engineering.

Uniforms.—By act of Congress July 17, 1914, all supplies may be purchased from the War Department at contract price to the government. Each cadet must purchase a uniform, costing on the basis of this year's estimates, as follows:

Blue cap with ornaments	$1.10
Blue coat with ornaments	5.45
Blue trousers with stripe	3.26
Freight	.50
Complete blue uniform	$10.31

One olive drab woolen uniform complete, except ornaments, is issued without cost to all men doing drill in Reserve Officer Training Corps and to each cadet doing drill.

Target Range.—An excellent Target Range of 12 Mid-Range and 6 Long-Range targets is provided. Spring Vacation Camp is held at this range and all cadets have target practice, combat firing, intrenchments and tactical exercises. All expenses of this camp are borne by the War Department. Especial care of the health of cadets is taken, and proper instruction in hygiene is given.

Importance of Training.—The importance of military training both to the individual and to the state, is so great that comment thereon is here unnecessary, although it may not be amiss to call attention to the benefits coming to the student through physical training, habits of orderliness, obedience and precision, and from a personal realization of responsibility and knowledge gained in organization. The growing demand for military instruction in connection with school work, and the fact that the Agricultural College is the only state institution where such a department exists, has led the authorities to make the work as thorough as possible; so that every able-bodied male student may become a well-instructed soldier, capable of rendering good service, able to organize, direct and instruct others. In fact, each cadet becomes a potential officer for our citizen soldiery.

Discipline.—Such discipline is imposed as is designed to teach precise and soldierly movement and to inculcate prompt and subconscious obedience which is essential to military control, and to make those who receive it able to direct kindly, firmly and justly, when called upon to command or to take their place in industrial organizations.

Organization in the Senior Division.—A battalion of infantry with band and staff is maintained. Each company is under the command of a captain who is a member of the junior or senior class. Captains and lieutenants are selected from the junior class by examination. Sergeants and corporals are chosen from the junior and sophomore classes, by examination.

A Junior Division of the Reserve Officers' Training Corps with all the privileges and allowances of the Basic Course of the Senior division is established for the School of Agriculture.

The Basic Course is completed in three years in the School of Agriculture or Junior Division, and in two years in the College or Senior Division.

Contract for Juniors and Seniors.—Any member of the Senior Divison who has completed two academic years of service in that division, who has been selected for further military training by the president of the college and the professor of military science and tactics, to secure the commutation of subsistence fixed by the Secretary of War, must sign the following contract:

....................19..

In consideration of commutation of subsistence to be furnished to me in accordance with law, I hereby agree to continue in the Reserve Officers' Training Corps during the remainder of my course in The Colorado Agricultural College.

A Company of the College Battalion

BASIC COURSE

701.—Infantry Drill and Theory of Military Art—Including the school of the soldier, squad and company, close and extended order. Preliminary instruction sighting position and aiming drills; gallery practice; nomenclature; and care of rifle and equipment. Theory of target practice; individual and collective; military organization; map reading; service of security; and personal hygiene. Required, first semester, freshman year, three hours attendance, one credit.

702.—Infantry Drill and General Military Policy—School of battalion, with special attention devoted to fire direction and control; ceremonies; manuals; bayonet combat; intrenchments; first-aid instruction; range and gallery practice. Lectures; general military policy as shown by military history of the United States and military obligations of citizenship; service of information; combat; school of company; camp sanitation for small commands. Required, second semester, freshman year, three hours attendance, one credit. Texts, Koehler's "Physical Training" and "Infantry Drill Regulations, U. S. A."

703.—Combat Firing and Theory of Military Art—Combat firing if practicable; if not, then collective firing in indoor ranges by devices now in vogue at United States Disciplinary Barracks. School of battalion and combat; small arms firing regulations; lectures; map reading; camp sanitation and expedients. Required, first semester, sophomore year, three hours attendance, one credit. Text, "Infantry Drill Regulations, U. S. A."

704.—Signaling and Intrenchments, Military History and Tactical Problems—Signaling; semaphore and flag; first aid. Work with sand table by constructing to scale; intrenchments, field works, obstacles, bridges, etc. Comparison of ground forms with terrain as represented on map; range practice. Lectures; military history; service of information and security (illustrated by small tactical problems of patrolling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages, and camping expedients; marches and camps. Required, second semester, sophomore year, three hours attendance, one credit. Text, "Field Service Regulations" and "Infantry Drill Regulations, U. S. A."

705 (a).—Military Camp—Freshmen and sophomores will be expected to encamp during the spring vacation of each year. Those not taking the spring camps will be required to take three hours drill a week during the junior year. One credit each camp.

705 (b).—Freshmen and sophomores have physical training two hours a week in the Department of Physical Training.

ADVANCED COURSE

706.—Duties of Officers and Field Studies—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching. Minor tactics; field orders; map maneuvers; company administration; military history. Required of cadets who have signed the Reserve Officers Training Corps agreement. First semester, junior year, five hours attendance, three credits.

707.—Continuation of 706—Duties consistent with rank as cadet officers or non-commissioned officers. Minor tactics; map maneuvers; elements of international law; property accountability; methods of obtaining supplies and equipment. Required of cadets who have signed the Reserve Officers' Training Corps agreement, second semester, junior year, five hours attendance, three credits.

708.—Duties of Officers and Military Theory—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises scheduled for the unit or units. Military sketching. Tactical problems; map maneuvers; court-martial proceedings; international relations; psychology of war; principles of strategy. Required of cadets who have signed the Reserve Officers' Training Corps agreement, first semester, senior year, five hours attendance, three credits.

709.—Duties of Officers and Military Theory, Continued—Tactical problems; map maneuvers. Rifle in war. Military history and policy. Required of cadets who have signed the Reserve Officers' Training Corps agreement, second semester, senior year, five hours attendance, three credits.

BATTALION ROSTER

T. J. J. Christian, Lieutenant Cavalry, U. S. A.	Commandant
*J. A. Rogers, First Lieutenant Field Artillery, U. S. A.	Commandant
W. L. Bevan, Cadet Captain, Adjutant	Assistant to Commandant
W. E. Runge	First Lieutenant and Director of Band
Joseph Drescher, Sergeant First Class Signal Corps, U. S. A., retired.	
R. P. Dunham, Sergeant Twelfth Infantry, U. S. A.	
W. B. Torrey, Sergeant Twenty-sixth Infantry, U. S. A.	

Field and Staff

N. Lee Foster	Major
H. V. Mathews	First Lieutenant and Adjutant
H. L. Nicholls	Second Lieutenant

COMPANY A

A. Falk	Captain
T. G. Stewart	First Lieutenant
R. E. Alstead	Second Lieutenant

COMPANY B

C. E. White	Captain
D. M. Hoagland	First Lieutenant
J. G. Nesbit	Second Lieutenant

COMPANY C

C. N. Shepardson	Captain
J. H. Newton	First Lieutenant
H. E. Northrup	Second Lieutenant

COMPANY D

H. L. Gaymon	Captain
R. B. Moran	First Lieutenant
W. A. Stallings	Second Lieutenant

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*Resigned.

PHYSICAL TRAINING

H. W. HUGHES..............................Director
MISS EDWINA LAYMAN...........Assistant Director
(In charge of Physical Training for Women)
CLAUDE E. REEDS..............Assistant Director

Physical Education for Women—The object of the work in physical training is to help in the acquisition and maintenance of health in body and mind; and to aid in a nearer approach to the ideal of perfect physical, mental and moral development. The work aims to be educative, corrective, and recreative. Especial emphasis is placed upon general body-building and co-ordinated movements which develop alertness, decision, concentration, and perfect control of mind over body; on corrective exercises for the adjustment of any defective or incorrect attitude of the body; and on the recreative exercises and games which cultivate a standard of fair play, and add much to the pure enjoyment of the work.

Folk and aesthetic dancing have been introduced into the work, and, when taken from the educational standpoint, are some of the most potent factors in promoting a graceful carriage with free, easy movements.

The new playground and tennis courts have added much to the possibilities of out-of-doors physical work, and games suitable to the season.

Physical training is required of every young woman except the students of the conservatory and seniors. The work is given in three one-hour periods each week (one credit). Uniform gymnasium suits of black serge, with blouse and full bloomers, gymnasium shoes, a short, full skirt for tennis and walking, rubber-soled shoes, and a tennis racket are required for satisfactory gymnastic work. The suits may be made or purchased after consulting the director. A physical examination by the director is required upon entrance, to ascertain the fitness of every student for the work, and to aid in the individual correction of any possible physical defects. Students physically unfit for work at any time, are excused during the period of disability.

Keeping the Bloom in the Cheeks and the Brain Clear by Healthful Exercise

The Colorado Agricultural College has Won the Football Championship of the Rocky Mountain Conference Twice in Succession

The Green and Gold, the field for women, is located north of Agricultural Hall, and contains tennis, basketball, and volleyball courts; a field sodded for hockey and other out-of-door games. Provision is made for outdoor theatricals.

The Department of Athletics is well organized under immediate direction of the Physical Director and comprises work in six lines,—football, basketball, track, baseball, tennis and cross country, each of which has its separate organization and finance. Each is managed by a student elected by the student body. All business matters pertaining to athletics are considered by the council, consisting of S. L. Macdonald, chairman; H. W. Hughes, Albert B. Cammack, Charles Shepardson and Earl Rundahl, three of whom are members of the faculty, and two are students elected by the Athletic Association.

The Agricultural College is a member of the Rocky Mountain Faculty Athletic Conference. Its athletics are on a very firm basis, free from debt, with all athletic teams well supplied with necessary equipment.

Colorado Field, the new athletic field for men, is located south of Agricultural Hall; the field for women is north.

The field for men consists of a quarter-mile cinder track, with football and baseball fields sodded in blue grass on the inside of the oval, with steel bleachers to seat 1,000 persons. The outside of the oval contains two practice fields, one for football, and one for baseball. In one corner of the field is located a cement club house, with hot and cold showers, warm rubbing tables, and lockers to accommodate 150 men.

The entire field is parked with shrubbery and driveways, and is surrounded by a high wire fence, with shrubbery planted directly on the inside.

Physical Education for Men—Physical training is required for all sophomores and freshmen and is scheduled two days each week. Exercises are taken from Manual of Physical Training, United States Army. On the recommendation of the Director, students taking part in athletics may be excused from the required physical training for the semester in which they are engaged in athletics. Students must take at least one semester of physical training. The fee of $1.50, each semester, pays for the use of locker and shower, and for a clean suit and towel each exercise. A deposit of $1.00, which will be returned if goods furnished are returned in good condition, is required.

The 1916 Champions

PHYSICS

FRED G. PERSON........................Professor
FRANK P. GOEDER..............Assistant Professor
*L. S. FOLTZ................................Instructor

751.—Household Physics—A study of mechanics of solids, liquids, gases, heat, magnetism and electricity, sound and light. The fundamentals of the subject are carefully considered in their relation to the household. Ventilation, heating and lighting, etc., are given careful attention. Prerequisites, Preparatory Physics, Algebra through quadratics. Required of Household Economics division, first semester, freshman year, two hours attendance, two credits. Mr. Person

752.—Household Physics Laboratory—Taken with 751 and designed to give the students more intimate acquaintace with the phenomena of daily life by performing the experiments covered by the subject matter of the text. Required in General Science and Home Economics courses, first semester, freshman year, two hours attendance, one credit. Fee, $1.00. Mr. Person

753.—Household Physics—Continuation of 751. Second semester, freshman year, two hours attendance, two credits. Mr. Person

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*On leave of absence.

754.—Household Physics Laboratory—Continuation of 752. Second semester, freshman year, two hours attendance, one credit. Fee, $1.00. Mr. Person

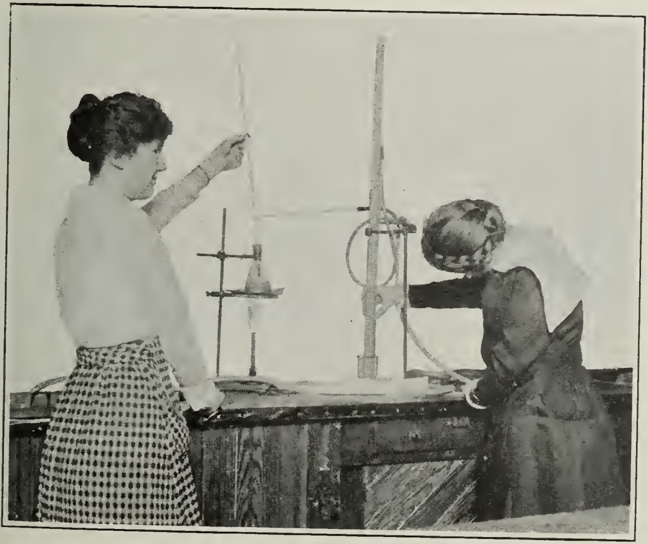
755.—General Physics—A study of mechanics of solids, liquids, gases, heat, magnetism, electricity, sound, and light. A course intended to give general knowledge of the phenomena in the physical world, and to form a basis for the study of all applied science. Prerequisite courses 602, 603. Required in the divisions of Agriculture, Mechanic Arts and General Science, first semester, sophomore year, three hours attendance, three credits. Text by Kimball. Mr. Person

756.—General Physics Laboratory—Taken with 755. Experimental work designed to give the student first hand knowledge of the operation of physical laws and to teach him methods of measurement and ability to handle and manipulate apparatus. Required in the divisions of Agriculture, Mechanic Arts and General Science, first semester, sophomore year, four hours attendance, two credits. Texts: Ames & Bliss, and Miller, Laboratory Manuals. Fee, $2.00. Mr. Goeder

757.—General Physics—Continuation of 755. Sophomore year, second semester, three hours attendance, three credits. Mr. Person

758.—General Physical Laboratory—Continuation of 756. Sophomore year, second semester, four hours attendance, two credits. Fee, $2.00. Mr. Goeder

759.—Applied Mechanics—This course, consisting of lectures and recitation, will cover the practical applications as well as the theoretical side of forces in action in the general field of mechanics. Numerous problems illustrating the different cases are used. Prerequisites, college algebra, trigonomerty, calculus. Required, sophomore year, second semester, three hours attendance, three credits. Mr. Goeder



In the Physics Laboratory

Another Corner of the Physics Laboratory

760.—Electrical Measurements—An elementary study of magnetism and electricity, the laws governing the same, and methods of measuring the quantities involved. Required in Electrical Engineering course, first semester, junior year, three hours attendance, three credits.

Mr. Aldrich

761.—Electrical Measurements Laboratory to Accompany 760—A study designed to give the student familiarity with the different types of electrical measuring instruments, determination of electrical properties and quantities, and testing. Many practical experiments employing the most up-to-date methods are performed. Required of the Electrical Engineering group, first semester, junior year, four hours attendance, two credits. Fee, $1.00. Text: Timbie & Higbie, "Elements of Electricity for Technical Students."

Mr. Aldrich

DEPARTMENT OF RURAL AND INDUSTRIAL EDUCATION

C. G. SARGENT.....................................
Professor of Rural Education and Rural School Visitor
MARGARET E. DURWARD.....................
.................Associate Professor of Education
...................................Assistant Professor
W. E. VAPLON.....................State Club Leader
MAUDE E. SHERIDAN.........Assistant Club Leader

RESIDENT COURSES

Those students who wish to comply with the requirements for a State Teachers' Certificate are given a course in professional training, at the same time getting special work in Agriculture, Mechanic Arts, Home Economics and other subjects closely allied. The State Certificate entitles the holder to teach in the public schools of any city, county, town, or district in the state without further examination, for a period of five years and may be renewed at the end of five years and later may be made a life diploma. The following courses are offered for this line of work: Methods of Teaching with Observation, History of Education, Psychology, Rural Education, and Practice Teaching.

801.—Methods of Teaching with Observation—A careful study of the fundamental principles of classroom instruction will be made. Classes in the School of Agriculture will offer abundant opportunity for illustrative material and observation. The course is designed to correlate as much as possible with the practice teaching which follows. The selection and organization of subject matter, preparation of lesson plans, methods of instruction and general classroom management will be studied. Open to juniors and seniors. Three hours attendance, three credits.

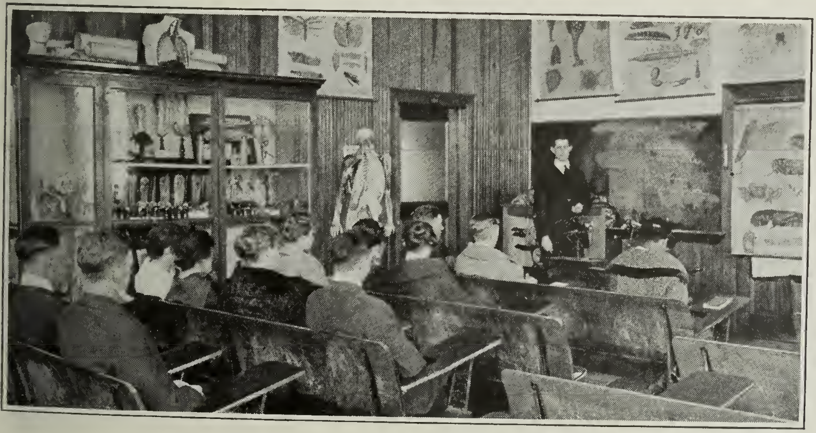
Miss Durward

802.—History of Education—This course traces the development of educational thought and practice from ancient to modern times, with special emphasis on the beginning, growth and present condition of education in America. Five hours attendance, five credits.

803.—Psychology—Required of those who expect to teach, and should be elected by students of other departments who are interested in their own mental development. Cannot be elected below junior year unless with consent of the head of the department. Five hours attendance, five credits.

804.—Rural Education—The work offered in this course is planned with special reference to the needs of teachers and supervisors of rural schools. The course considers the development of agricultural education; the course of study for rural elementary and high schools; extension service; rural schools as community centers; consolidated schools; school law of Colorado as applied to rural districts. Elective, two hours attendance, two credits.

805.—Practice Teaching—An unusual opportunity is given for practice teaching in the School of Agriculture. Open to seniors only. Unless



A Practice Teacher Giving Instruction in Entomology special permission is given by the supervisor of practice teaching, no one is allowed to take this course who has not made an average grade of 80% during the three previous years or who is carrying more than twenty hours of work including the practice teaching. Seniors are given an opportunity to teach in the various departments such as Home Economics, Agronomy, Animal Husbandry, Science, Mathematics and English, under a critic teacher who, in turn, is responsible to the head of the department and to the supervisor of teaching. Credit is given from three to five hours, according to the amount and line of work taught. Miss Durward

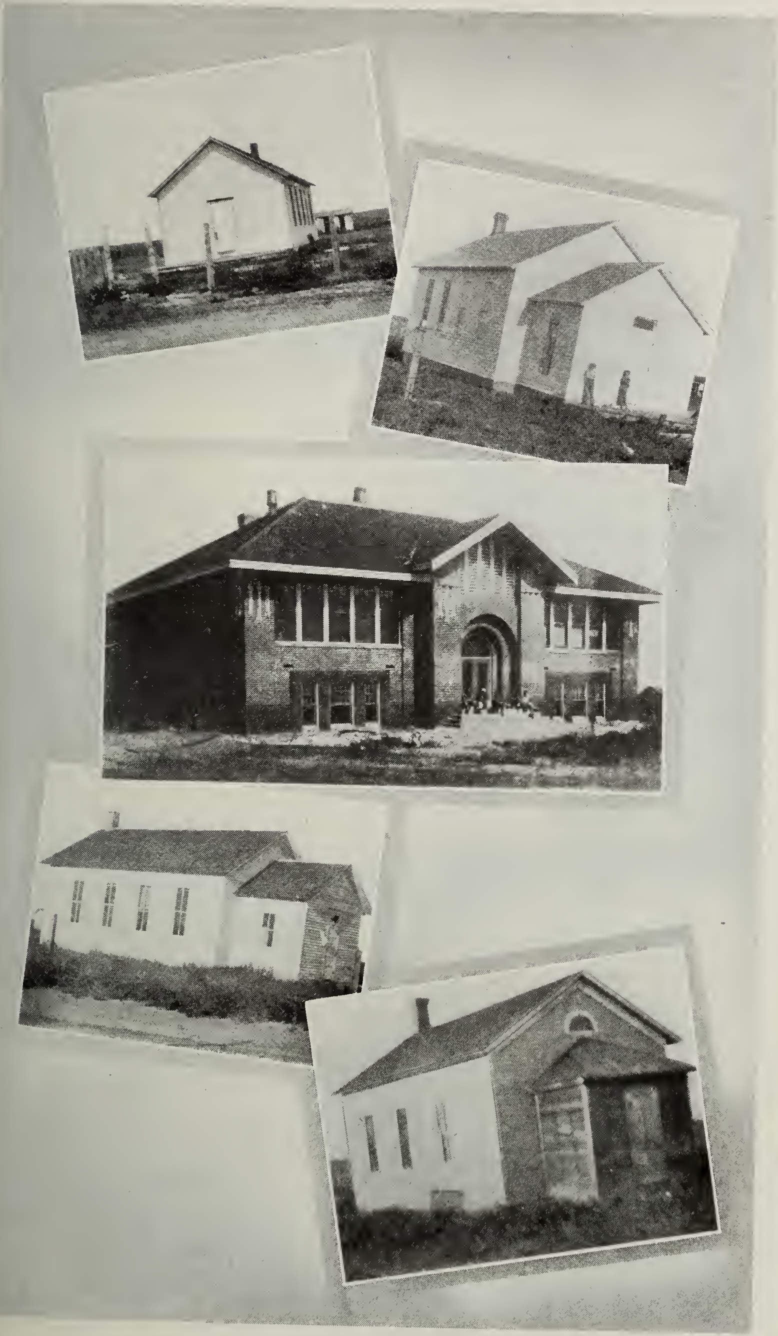
806.—Course for Rural Teachers—A course designed to train those who are directly interested in rural school teaching. The course of study (given in full in the catalog of the School of Agriculture), includes a review of the common branches, with methods of teaching, special studies in agriculture and domestic science for the rural schools, together with observation and practice teaching in some of the neighboring districts. Students in the college who are unable to take the full college course and who wish to take some review subjects in order to qualify for the county examinations and who wish some special training for rural schools will find this course well adapted to their needs. Miss Durward

EXTENSION COURSES

Rural School Improvement.—This work includes the whole field of rural education. Surveys are made and bulletins are published showing conditions in the rural and town schools of Colorado and suggestions are made for their improvement. Educational campaigns are conducted in co-operation with superintendents and teachers for the purpose of bringing before the people the best methods of conducting schools.

Assistance is given in consolidating districts, centralizing schools, the organization of high schools, the transportation of pupils, and suggestive plans are furnished for modern school buildings, for playgrounds and playground equipment. Rural lecture courses are arranged and all forms of community social center activities are encouraged and promoted.

A Young Woman Practice Teacher in Charge of a Class



The Dailey Consolidated School at Dailey, Colorado—The Large Building in the Center Replaced the Four Smaller Buildings

The department, in co-operation with departments of other educational institutions and with organization seeks to improve the school laws of the state where the facts discovered and experience shows that changes would be beneficial.

Seventeen Home Reading and Correspondence courses are offered in school, home, and church improvement. Each course covers some phase of rural life; and rural people, men, women and children are encouraged to read the best books and acquire the latest and best information about country life and its improvement. Mr. Sargent

Information Bureau.—The department acts as a service bureau in school improvement and rural betterment, and lecturers are sent to address teachers' associations and other educational meetings, country life clubs, grange and farmers' union meetings, and all country organizations on these and related subjects.

Boys' and Girls' Clubs.—This work, carried on in cooperation with the United States Department of Agriculture, is in charge of a state club leader and an assistant leader who devote all of their time to the organization and general supervision of the work. It ties up very closely with, and is made a part of, the school work in each district in so far as this is possible. In many cases the teacher acts as local leader while in others a rural pastor, an interested father, mother or other person assumes the leadership and directs the club in cooperation with the school. County superintendents and county agricultural agents help to promote and supervise the clubs within their counties. In a few cases county club leaders are employed for the country schools, while in town and city schools the teacher of agriculture in the high school is employed for eleven months and directs the city clubs during the summer. Some of the towns and cities of the state have done excellent club work and this is being encouraged and extended as fast as resources permit.

A Group of Young Women Who Are Taking Work in Practice Teaching

Ten club projects are offered as follows: Corn, bean, potato, pig, poultry, garden and canning, cooking, sewing and tree clubs. Carefully prepared lessons for the season's work in each project are furnished free to each club member. These are written in a style suited to children and all the lessons for each project are neatly bound in pamphlet form.

All these clubs react favorably upon the rural school by giving purpose and direction to the course of study, teaching lessons in thrift and industry, and by interesting country boys and girls in the farm, the farm home and all that is best and most desirable for people in the country. Mr. Vaplon and Miss Sheridan

City Clubs.—Garden, canning, cooking, sewing and poultry clubs are as suitable for the city as for country children. They give healthful, pleasant and profitable employment to city children during vacation months. They teach many lessons in thrift and industry while unsightly back yards and vacant lots are made to serve a useful purpose and add to the beauty of the town. This work is carried on under a cooperative agreement between the communities and the Agricultural College.

Mr. Vaplon

VETERINARY MEDICINE

GEORGE H. GLOVER	Head of Division, Professor of Theory and Practice
I. E. NEWSOM	Professor of Pathology
HARRY E. KINGMAN	Professor of Surgery
A. W. WHITEHOUSE	Professor of Anatomy
H. S. EAKINS	Professor of Materia Medica
FLOYD CROSS	Instructor in Physiology

851.—Anatomy—This subject is given in two hour periods in the laboratory. Complete dissection of the dog is begun. Ten hours attendance, five credits, first semester, freshman year. Texts: Sisson's "Veterinary Anatomy," and Bradley's "Dissection of the Dog." Fee, $2.50.

Mr. Whitehouse

852.—Anatomy—Dissection of the dog is finished and complete dissection of the horse is begun. Ten hours attendance, five credits, second semester, freshman year. Text: McFaydean's "Anatomy of the Horse." Fee, $2.50. Mr. Whitehouse

853.—Anatomy—Dissection of the horse is continued. Ten hours attendance, five credits, first semester, sophomore year. Fee, $2.50.

Mr. Whitehouse

854.—Anatomy—Dissection of the horse is finished. Comparative dissection of sheep, ox, pig, and possibly fowl. Ten hours attendance, five redits, second semester, sophomore year. Fee, $2.50. Mr. Whitehouse

855.—Comparative Anatomy—An abbreviated general study of the tructure of the domesticated animals, special attention being given to he thoracic and abdominal viscera and to the limbs. Required of eniors in Animal Husbandry, six hours attendance, three credits, first emester. Text: Sisson's "Veterinary Anatomy." Fee, $2.50. Mr. Cross

856.—Histology—A detailed microscopic study of the minute strucure of normal animal tissues. Ten hours attendance, five credits, first emester, sophomore year. Text: Bailey's "Textbook of Histology."

Mr. Eakins

857.—Physiology—A study of the functions of the normal tissues and organs of the animal body. Five hours attendance, five credits, second semester. Required of freshman Veterinary and senior Animal Husbandry students. Text: Fred Smith's "Manual of Veterinary Physiology." Prerequisites, 851 or 855. Mr. Cross

858.—Chemical Physiology—A study of the chemical constitution of tissues and fluids of the body and changes which they undergo in the normal animal. Three hours attendance, three credits, first semester, sophomore year. Texts: Holland's "Medical Chemistry" and Fred Smith's "Manual of Physiology." Prerequisite, 857. Mr. Cross

859.—Physiology—Continuation of 857 and 858. Special attention being given to animal nutrition and locomotion. Two hours attendance, two credits, second semester, sophomore year. Text: Fred Smith's "Manual of Veterinary Physiology," supplemented by lectures. Mr. Cross

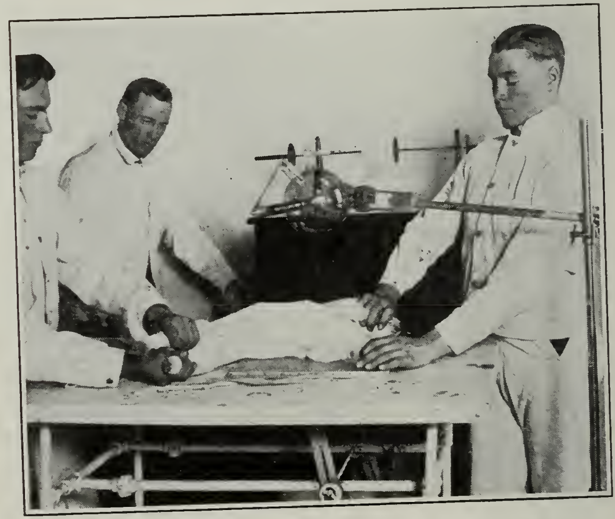
860.—Physiology Laboratory—Exercises in digestion, examination of urine and detection of poisons. Four hours attendance, two credits, second semester, sophomore year. Fee, $2.50. Mr. Cross

861.—Materia Medica—This subject treats of the occurrence, derivation, physical and chemical properties, physiological actions, official and other preparations, toxicology, and doses of drugs. Three hours attendance, three credits, first semester, freshman year. Texts: Quitman's "Materia Medica and Therapeutics," and Holland's "Medical Chemistry and Toxicology." Mr. Eakins

862.—Materia Medica—Continuation of 861. Three hours attendance, three credits, second semester, freshman year. Mr. Eakins

863.—Materia Medica—Continuation of 862. Two hours attendance, two credits, first semester, sophomore year. Mr. Eakins

864.—Materia Medica—Continuation of 863. Two hours attendance, two credits, second semester, sophomore year. Mr. Eakins



The Colorado Agricultural College is Doing Pioneer Work With the X-ray i Veterinary Practice

865.—Pharmacy—Laboratory instruction in metrology, prescription writing, pharmaceutical operations, and preparation of official fluid extracts, tinctures, pills, ointments, liniments, biologics. Four hours attendance, two credits, second semester, junior year. Fee, $2.50. Mr. Eakins

866.—Therapeutics—A consideration of the use of remedial agents in the treatment of disease. Given by lectures. Two hours attendance, two credits, first semester, senior year. Prerequisite, 864.
Mr. Whitehouse

867.—Therapeutics—Continuation of 866. Two hours attendance, two credits, second semester, senior year. Mr. Whitehouse

868.—Parasitology—A study of the animal parasites affecting the domesticated animals, economical importance, measures of control and eradication. One laboratory and two class hours, three credits, second semester, sophomore year. Text: Kaupp's "Animal Parasites and Parasitic Diseases."
Mr. Eakins

869.—Meat Inspection—A study of gross lesions of disease in food producing animals; federal, state and municipal rules and regulations governing sanitation, ante- and postmortem inspections; and routine inspection methods. Three hours attendance, three credits, first semester, senior year. Texts: U. S. B. A. I. regulations in effect, and Edelman's "Meat Hygiene."
Mr. Eakins

870.—Pathology—A consideration of disease processes in general, edema, inflammation, degeneration, regeneration and new growths. Ten hours attendance, five credits, first semester, junior year. Text: Mallory's "Pathologic Histology." Fee, $2.50. Mr. Newsom

871.—Bacteriology—Recitations and laboratory work on the various phenomena exhibited by the bacteria and protozoa that are pathogenic for animals and man. Given in two hour periods in the laboratory. Ten hours attendance, five credits, second semester, sophomore year. Texts: Buchanan's "Veterinary Bacteriology" and Heineman's "Laboratory Guide." Fee, $3.00. Mr. Newsom and Mr. Eakins

872.—Autopsy—Required of all senior and junior students whenever material is available. No credit. Mr. Newsom

873.—Laboratory Diagnosis—Diagnosis of disease by examination of body fluids, microscopic examination of tissue and experimental inoculations. Special stress is given to analysis of urine, blood examinations, and detection of poisons. Four hours attendance, two credits, first semester senior year. Fee, $2.50. Mr. Newsom

874.—Laboratory Diagnosis—Continuation of 873. Four hours attendance, two credits, second semester, senior year. Fee, $2.50.
Mr. Newsom

875.—Surgical Restraint—Practical instruction in the restraint of animals during examination or operation. It includes the study of numerous makes and styles of casting harnesses, the demonstration of their uses and advantages; the tying of knots; making of halters, and numerous other appliances used in handling the domestic animals. Two hours attendance, one credit, second semester, freshman year. Mr. Kingman

876.—Surgery—General surgery; consideration of the causes, course, symptoms, and treatment of surgical diseases of the domestic animals.

Two hours attendance, two credits, first semester, junior year. Text: Frohner's "General Veterinary Surgery." Mr. Kingman

877.—Surgery—Continuation of 876. Two hours attendance, two credits, second semester, junior year. Mr. Kingman

878.—Operative Surgery—Consideration of operative technique for specific operations. Taught by lectures and demonstrations. Two hours attendance, two credits, first semester, senior year. Prerequisites, 876 and 877. Mr. Kingman

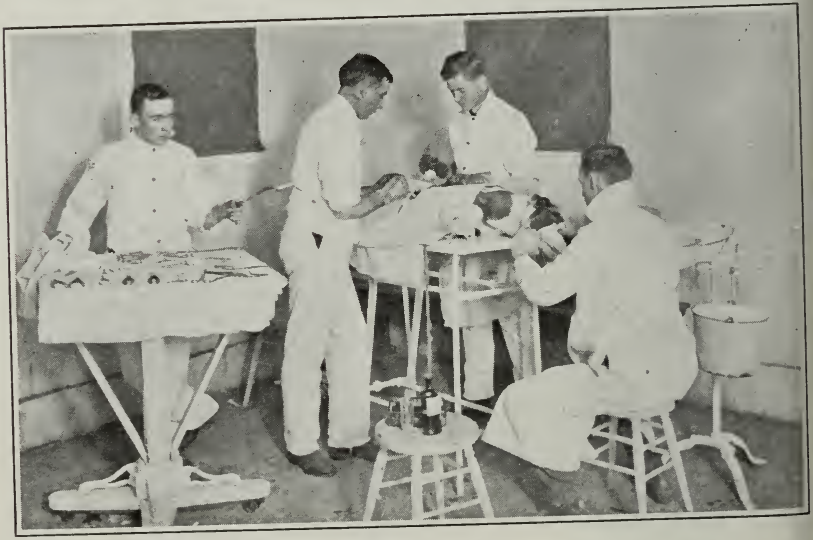
879.—Surgical Exercises—Practice in surgical technique. Taken any time during the senior year when material is available. One credit. Fee, $2.50. Mr. Kingman

880.—Surgery—Continuation of 878. Two hours attendance, two credits, second semester, senior year. Mr. Kingman

881.—Lameness—The causes of lameness, art of diagnosis, and treatment. Three hours attendance, three credits, second semester, junior year. Prerequisites, 851, 852, 853, 858. Text: Wyman's "Diagnosis of Lameness in the Horse." Mr. Kingman

882.—Obstetrics—The diseases incident to reproduction, their causes, prevention, and treatment, supplemented by demonstrations in the clinic. Prerequisites, 851, 852, 853, 854, 870. Four hours attendance, four credits, first semester, senior year. Text: Williams' "Obstetrics." Mr. Kingman

883.—Shoeing, Soundness and Military Practice—The principles involved in shoeing for pathological conditions of the feet of horses. The examination of the domestic animals for unsoundness. The duties of the army veterinarian. Two hours attendance, two credits, second semester, senior year. Mr. Kingman



Veterinary Clinic

884.—Canine Medicine—Consideration of the breeds of dogs and cats, and their special requirements when diseased. Two hours attendance, two credits, second semester, senior year. Mr. Kingman

885.—Clinic—Junior students are expected to assist the seniors in their hospital and clinical work, which consists, among other things, in making daily examinations of cases, and assisting in the dressing of wounds, and treatment of all cases in the hospital. Five hours attendance, two credits, first semester, junior year. Mr. Kingman

886.—Clinic—Continuation of 885. Five hours attendance, two credits, second semester, junior year. Mr. Kingman

887.—Clinic—Seniors are given preference in the ambulatory clinic and assisting with operations, diagnosis, and treatment of all cases in the hospital. Five hours attendance, two credits, first semester, senior year. Mr. Kingman

888.—Clinic—Continuation of 887. Five hours attendance, two credits, second semester, senior year. Mr. Kingman

889.—Theory and Practice—Diseases of a sporadic nature are first considered, including diseases incident to the respiratory, digestive, circulatory systems, etc. Living animals are utilized as far as possible in practical demonstration of various diseases, as are also specimens from the pathology museum. Four hours attendance, four credits, first semester, junior year. Text: Hutyra & Marek's "Pathology and Therapeutics of the Diseases of Domestic Animals." Mr. Glover

890.—Theory and Practice—Continuation of 879. Five hours attendance. Five credits, second semester, junior year. Text, same as 889. Mr. Glover

891.—Theory and Practice—Deals principally with infectious diseases, acute infectious exanthematic diseases, acute infectious diseases with localization of certain organs, infectious diseases with special involvement of the nervous system; chronic infectious diseases. Five hours attendance, five credits, first semester, senior year. Text, same as 889. Mr. Newsom

892.—Theory and Practice—Continuation of 891, and infectious diseases produced by protozoa. Four hours attendance, four credits, second semester, senior year. Text, same as 889. Mr. Glover

893.—Dairy Inspection—This subject embraces the sanitary handling of milk, use of the scorecard, diseases of dairy cows, adulteration of milk, effect of improper food on the dairy cow and her products, the tuberculin test, etc. Two hours attendance, two credits, second semester, senior year. Prerequisites, 892 and 868. Mr. Glover

894.—Diseases of Livestock—This subject is devoted to a practical consideration of common accidents and ailments on the farm; the care of animals in health and nursing in disease. Required of Animal Husbandry students, three hours attendance, three credits, first semester, senior year. Mr. Glover

895.—Agricultural Bacteriology—A study of the morphology, physiology, and other phenomena exhibited by bacteria that have special reference to milk and soil; to animal and plant diseases. Recitation and laboratory work given in two hour periods, in the laboratory. Elective for students in the agricultural group, ten hours attendance, five credits, second semester. Texts: Marshall's "Microbiology for Agricultural Students," and Heineman's "Laboratory Guide." Fee, $3.00. Mr. Newsom

896.—Household Bacteriology—The preparation of culture media and the culture and observation of micro-organisms that are of special interest to students of home economics. Special stress is laid on molds and yeasts, the preservation of foods, sanitary milk and water supply. Recitation and laboratory work in two hour periods. Required of students in domestic science, ten hours attendance, five credits, second semester, senior year. Texts, Buchanan's "Household Bacteriology" and Heineman's "Laboratory Guide." Fee, $3.00. Mr. Newsom

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CONSERVATORY OF MUSIC AND SCHOOL OF ORATORY

Instructors

ALEXANDER EMSLIE (Boston Conservatory of Music, Charles R. Adams, Boston), Voice Culture, Opera, Oratoria and Chorus Director
HOWARD S. REYNOLDS (New England Conservatory of Music), Instructor in Violin, Harmony, Counterpoint, Composition, and Orchestra Director
MRS. ALEXANDER EMSLIE (Simpson Conservatory of Music), Instructor in Piano and History of Music
CLIFFORD S. DUNHAM (Iowa State Teachers College), Instructor in Voice
GEORGE E. TOOMEY (Cumnock School of Oratory, Northwestern University), Instructor in Oratory, Public Speaking, Dramatic Art
MISS MINNIE SWEITZER........Assistant in Piano
MRS. ALICE D. ROOT (Student Conservatory of Music, of Wooster College, and Graduate of Commercial Department College of Wooster, Wooster, Ohio), Instructor in Public School Music
MISS OPAL GEVREZ.............Assistant in Piano
MISS LUCY FRIEND....Accompanist to the Director
BENNET W. FOLTZ...........Instructor in Cornet
W. E. RUNGE.................................. Instructor in Clarinet and Leader of the Military Band

The Conservatory of Music furnishes carefully prepared courses of study in each of the various branches taught, commencing with the most elementary in each specific branch and carrying its students through to the last stages of a finished musical education. Musical education in the West has steadily advanced so that it is now conceded that the advantages are greater at home than in the East.

Voice Culture.—In this department careful attention is given to the following: Correct tone placement, breathing, diction, phrasing, interpretation, style, etc. In the main, oral exercises are used, as it has been demonstrated over and over again that this method of teaching has produced the best results.

Oratorios and Cantatas.—The study of oratorios should be undertaken only by the most advanced pupils. The highest ambition of a singer should be to achieve distinction in this line of work. The following oratorios and cantatas may be studied: Handel's Messiah, Samson, Judas

Maccabeus, and Jeptha; Mendelssohn's Elijah, St. Paul, Athalie, and Hymn of Praise; Haydn's Creation, Seasons, etc. A competent accompanist will be furnished at lessons in oratorio, free of charge.

School of Oratorio and Acting.—Operas, like oratorios, should be studied by advanced pupils. No singer can be fully equipped without being able to sing at least three operas. It brings to the voice a quality of tone which cannot be obtained from any other study of music. Pupils desirous of studying the art of acting in connection with the opera can do so, although it is not compulsory. The study of acting is offered so far as it relates to operatic rendition in order to give the pupils a graceful bearing on the stage or platform. As is well known, a singer's success is largely due to his or her personal appearance in opera, oratorio, or concert singing.

Voice Training for Children.—This training is given in classes and is invaluable to children. Much of the purity, beauty, and ease of tone in speech and song of the adult depends upon the care and guidance of the voice in childhood. Proper vocal exercises are given to develop a perfectly healthy throat—stress is laid upon the extreme delicacy of the vocal organs and the great danger of straining them by too loud singing, talking or laughing. There would be fewer harsh, metallic, nasal, guttural voices if parents could but realize the importance of such care.

Pianoforte.—It is a universally conceded fact that the study of pianoforte is and will continue to be a very essential part of a musical education. Considering the great advance made in this line of work during the last decade, a course of training which answered the needs of pupils a few years ago is entirely inadequate to present demands. While the outlined course is not obligatory, it will be used to meet the individual requirement. Special attention is given to musical touch, interpretation, ear training, musical analysis, rythm, sight reading, and musical thinking. The famous Leschetizky, also the Mason touch and technique are employed in fundamental work.

Children's Work.—This work is given both privately and in class. The private work consists of the study of melody, rhythm, technique, and sight reading. Formed into classes, the pupils are taught by means of symbols. Interesting games make tedious drills subjects of pleasure; stories and songs stimulate ideas and musical intelligence. Mental drills

The Conservatory

are used to awaken musical thought; the eye is trained to read quickly and correctly musical notation. The muscles of the fingers, wrist, and arm are developed and strengthened by finger gymnastics and table technique, performed to the rhythm of delightful little songs. The sense of rhythm is developed by rhythmic exercises and songs. Marches and drills cultivate correct ideas of time. Pictures and verses teach of the great composers. Piano work illustrates the principles taught by games and exercises.

Demonstrations will be given occasionally to show parents and friends the results accomplished in this line of work.

Harmony, Counterpoint, and Musical History.—The study of Harmony proper begins with the consideration of the Triad. Following this comes the rules for connecting Triads; the inversion of Triads; consecutive unisons; fifths and octaves, chords of the seventh and their inversions; cadences; Italian, German, French, and Neapolitan sixth chords; chords of the ninth, eleventh and thirteenth; modulations; suspensions and retardations; open harmony, and score writing. Following this Elementary Harmony comes a course of Counterpoint. This study must be directed in accordance with the needs of each individual pupil.

The course in the history of music consists of text-book and lectures on the development of music from early times to the present. This course is invaluable for a greater knowledge of either vocal or piano music.

Public School Music.—This course is designed for the training of supervisors of music in public schools. There is an incessant demand from all parts of the country for capable teachers especially qualified to supervise and teach music in the public schools. Such knowledge can only be obtained under the guidance of a teacher who has by personal experience familiarized himself with the peculiar demands of this line of work. Instruction is given both privately and in class. Those wishing to take the full course in one year are required to take four class lessons a week.

Sight Singing and Reading.—The work of this course consists in presenting the melodic and rhythmic elements of music with special reference to notation and its relation to music thinking and music reading. It seeks systematically to devélop the ability to translate quickly the written symbols of music into melody and song, and aims especially to prepare for acceptable chorus choir work, as well as to lay foundation work for all music thinking.

Students' Recitals.—Recitals are given at intervals during the season. These recitals are a part of the regular work of the conservatory and are designed to give frequent opportunity to come before audiences. All students are therefore expected to take their turn when chosen and receive help and suggestions from the respective teachers. Parents and friends are welcome at these recitals.

Free Advantages and Priviliges.—A large chorus will be formed for the purpose of rehearsing the choruses from the oratorios and operas. Those competent and willing to attend rehearsals regularly will be admitted free of charge. Ladies' and gentlemen's glee clubs will also be organized and will meet twice a week for practice. Only those students having good voices and who are good readers of music will be entitled to membership in these clubs.

Library.—The conservatory has over two thousand copies of music, by the best composers, all nicely bound and classified. Consequently it is able to rent to the students at a nominal price such music as will meet the demands of an entire course. Students desirous of buying their own music will be at liberty to do so.

TUITION

Fall Term of Fourteen Weeks

(For other terms, prices proportionate)

Vocal Lessons:	
Mr. Emslie	
Two lessons per week twenty minutes	$28.00
One lesson per week, thirty minutes	$21.00
Mrs. Root	
Public School music, two lessons per week of forty minutes, in class	$14.00
Private lessons, thirty minutes, two per week	$21.00
Piano Lessons:	
Mrs. Emslie	
Private lessons, thirty minutes, two per week	$21.00
One lesson per week, thirty minutes	$14.00
Violin Lessons:	
Mr. Reynolds	
Two lessons per week, thirty minutes	$28.00
One lesson per week, thirty minutes	$14.00
Harmony, Analysis:	
In class	$12.00
History, Ear Training:	
In class	$8.50
Music Rent	$1.50

Degree Offered.—The degree of Bachelor of Music is conferred upon those finishing the required course of musical study.

Rules and Regulations.—Tuition is payable strictly in advance and the conservatory is in no way responsible for lessons lost through absence or tardiness of the pupils. Students entering after the opening of the term will be charged only from the date of entering. No reduction made

The Conservatory of Music Girls' Glee Club Made a Successful Tour Through the State This Year for temporary absence of pupils or for lessons discontinued. Students leaving during the term will therefore not be entitled to have any money refunded; only in case of protracted illness will an exception be made in the above stated regulations.

Students pursuing any of the regular courses of study will be permitted to arrange for such instruction in music as in the judgment of the faculty will not interfere with their college work. Students in Home Economics and General Science courses are allowed five credits in music in the requirements for graduation. Students of the conservatory may take up such work in the College and in the School of Agriculture as they are qualified for. The requirements for registration are the same as for regular students.

Students in the conservatory, not graduates of high schools, may, upon recommendation of the director of the conservatory and of the professor of modern languages, take up work in French, German or Spanish.

Further information sent on request.

SCHOOL OF ORATORY

The Aim.—The aim of this department is, first, to assist the student in finding himself; to aid him in achieving that which belongs, in some degree, to every person—the ability to express himself, whether in public, or in private conversation; second, to delelop and prepare the student to teach public speaking and debate, or to entertain, as well as impart knowledge to others from the platform as a lecturer or reader.

Courses carefully designed for results along all lines of expression will be available for the individual need.

Our methods for accomplishing these results cannot be stereotyped. We do not assume to tell the student at once, just what he must do, and all he must do. The most reliable asset that he has may be his individuality. In no case will this be ignored; but it will be kept constantly in mind by the teacher, and the very best method for the individual, adopted and followed.

To students pursuing the regular course of study, class instruction will be supplemented by private lessons. For the highest order of results, these private lessons are indispensible. Both the virtues and the faults that belong to the student are personal, and need personal attention, without receiving which, no amount of mere class work can be entirely satisfactory.

The attention which we give to this private instruction, is both special and persistent.

TWO-YEAR COURSE OF STUDY

Junior Year	Senior Year
Fundamentals of Expression	Advanced English Literature
English	Argumentation and Debate
Physical Culture	Physical Culture
Shakespeare (oral interpretation)	Shakespeare (oral interpretation)
English Literature	Modern Drama Interpretation
Private Lessons	Play Presentation
Recitals	Private Lessons
	Recitals

Diplomas.—Students satisfactorily completing the course in the School of Oratory will be awarded a diploma.

Requirements for Admission.—Candidates for the diploma must be graduates of a high school, or must make a satisfactory showing of an equivalent preparation. Special students not taking the regular course and not candidates for a diploma may enter the school at any time.

TUITION

Fall Term of Fifteen Weeks

(For other terms prices proportionate)

Two lessons per week, thirty minutes	$30.00
One lesson per week, forty minutes	$22.50

College Class Work in Public Speaking

Two hours per week. College semester. Class of six	$16.00
Two hours per week. College semester. Class of ten	$10.00

Diploma Fee

A fee of $5.00 is charged persons taking the diploma of the school.

Rules and Regulations.—The same rules and regulations which govern the Conservatory of Music are observed in the School of Oratory.

For further information address, the Director, Conservatory of Music and School of Oratory, Colorado Agricultural College, Fort Collins, Colo.

Business Section of College Avenue, Fort Collins

College Organizations

LITERARY SOCIETY

There is one college literary society which affords an opportunity for literary work and practice in debating and public speaking.

The Philo-Athenaeum Society meets Saturday evenings in Horticultural Hall. "The object of this society is to encourage free investigation, and to promote growth in literary composition, and readiness and fluency of speech."

THE DRAMATIC CLUB

The Dramatic Club of the Colorado Agricultural College has a limited membership composed of those who are interested in the study of good dramatic works and in the production of the best plays for amateurs. It has been the custom for several years to give three public entertainments during the year; in the fall a group of two or three one-act plays, in the mid-winter a longer and more serious study, and in the spring a play suitable for outdoor presentation. All money above expenses is devoted to some other worthy student enterprise. The club holds membership in the Drama League of America, in this way keeping in touch with the work of other like organizations in the universities and colleges of the United States.

TECHNICAL SOCIETIES

The Home Economics Club.—All women students in the college are eligible to membership in the Home Economics Club. The programs offered present for consideration problems of the teaching field, findings of the research laboratory and extension activities of interest to the student in Home Economics. News from the field and reports on current literature are added topics of interest. Through the club is offered an opportunity for the study of the purpose and methods of work of the professional association.

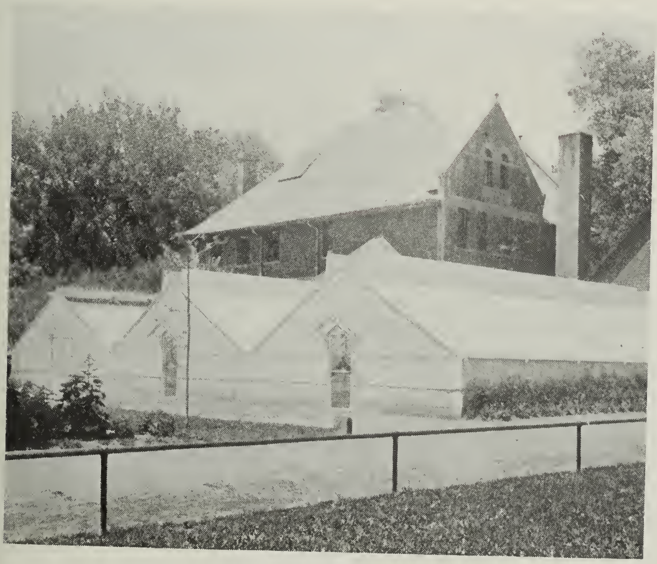
"The Agricultural Club" is a scientific society organized and maintained by the students of the Agricultural division. Meetings are held each Monday evening in Horticultural Hall. At these meetings, subjects are discussed relating to the farm, orchard, garden, and experiment stations. Occasionally talks are given by the faculty and other lecturers. Students of good standings receive diplomas from the society upon graduation from the college. This is the only agricultural club on the campus that is open to all classes.

"Engineering Society."—With "The encouragement of original research, the dissemination of these results among its members; and the cultivation of a spirit of mutual assistance in the practice of the profession of engineering" as an object, the Engineering Society of C. A. C. was organized in the fall of 1902. The membership is composed of all students who are pursuing courses in engineering. Many talks of practical worth are given by the professors and engineering students at the meetings, which are held every Monday evening in the Electrical Engineering building.

"Agricultural College Branch American Institute of Electrical Engineers."—The students of the Electrical Engineering department have formed a Student Branch of the American Institute of Electrical Engineers. The proceedings of the American Institute of Electrical Engineers are read and discussed, and original papers are presented to the society by the students and the faculty members. All electrical engineering students are eligible for membership.

"The Veterinary Medical Association" was organized in the beginning of the fall term, 1907. This association is composed of veterinary students and college professors, and is devoted to the study of scientific problems along veterinary lines, and to the promotion of the social interests of the Veterinary department. The association meets each Monday evening at seven o'clock in the Pathology building on Laurel street. Graduates of the Veterinary department are granted diplomas from this association only upon the condition that they have faithfully performed seventy per cent of the work required of them. Every student is expected to read at least two original papers on veterinary subjects each term.

"Colorado Agricultural College Branch of American Society of Mechanical Engineers."—The senior and junior students of the Mechanical Engineering department, by permission of the American Society of Mechanical Engineers, have formed a local student branch. The proceedings of the American Society of Mechanical Engineers are supplied the members of the branch. Discussion of the papers appearing in the transactions. original papers by the student members, and lectures by prominent engineers, and the faculty members are features of the meetings.



The Greenhouses and Horticultural Hall

"Live Stock Club."—The Live Stock Club was organized in 1912 for the purpose of further developing the interest in live stock by discussing its problems and activities, especially from the viewpoint of the breeder and feeder. Interest in stock judging is further promoted by awarding a club trophy to the member showing the greatest proficiency in judging at the Western Stock Show in Denver.

Meetings are held every second Wednesday night in Agricultural Hall, the programs consisting of discussions with various successful farmers and stockmen from over the state, regarding conditions, methods, and results of various live stock enterprises.

Seniors, juniors, and sophomores of the Animal Husbandry department are eligible to membership.

The Entomology Club.—The Entomology Club meets in the Zoology building the second and fourth Tuesdays of each month. All students interested in the science of entomology are entitled to membership. The purpose of the club is to further the interest in this science, and to keep in touch with developments along entomological lines.

The Horticultural Club.—The C. A. C. Horticultural Club was founded in the fall of 1913. The membership is limited to students majoring in horticulture of the senior and junior classes. The purpose of the club is to promote a deeper interest in horticulture. Meetings are held on the first and third Tuesdays of each month, at which time current literature is reported and discussed; also discussion of some topic of general interest. There are no officers, the faculty members acting as a sort of advisory board.

Forest Club.—A Forest Club of about sixteen active members meets on alternate Wednesdays between 7:15 and 8:15 P. M. Papers are read, or addresses are given on the more popular phases of forestry in order to maintain the interest in the subject among the members of the two lower classes, or to inform prospective forestry students concerning the nature of forestry. Frequently officers from the United States Forest Service and men engaged in the lumber business are secured to give these addresses.

ATHLETIC ASSOCIATION

Officers, 1916-1917

CHAS. SHEPARDSON	President
NYAL ADAMS	Vice-President
EARL RUNDAHL	Secretary

This association has for its object the promotion of collegiate and intercollegiate athletics. All students are eligible for membership, the only requirement being to sign the constitution of the association. The president and secretary are ex-officio members of the Athletic Council, which is made up of three members of the faculty and the two students named. The council directs the general athletic work of the institution.

When a student becomes a member of the association, three dollars of his entrance fee go to the association treasury; and by a unanimous vote of the associated students, a motion was carried asking the college registrar to collect $4.00 from each student upon registration, to pay for a season ticket to all athletic contests excepting the annual athletic smokeless smoker.

The association stands for true sportsmanship and fair dealing, and a strict observance, both in letter and in spirit, of the agreements of the Rocky Mountain Faculty Athletic Conference.

THE ASSOCIATED STUDENTS

Officers, 1916-1917

LEE FOSTER	President
VIRGINIA THOMPSON	Vice-President
GRANT WALKER	Secretary

The "Associated Students" was organized in the fall of 1908. Its object is to promote college spirit, to bring the students into closer fellowship, and to discuss and act upon all matters pertaining to the welfare of the student body and hence our institution. Its value has been shown by the enthusiasm with which the students discuss the questions brought before them, and the accuracy of the final conclusions upon these questions of general interest. Its membership includes all college students. The officers are chosen one from each class, and one from the woman students.

STUDENT COUNCIL

Officers, 1916-1917

LEE FOSTER	Chairman
GRANT WALKER	Secretary

The Student Council was organized in 1912. Its object is to consider the various subjects of interest to the student body; to recommend lines of action in the various student activities, and to consider misunderstandings between the faculty and the students. It is in the nature of an executive committee to the Associated Students. It is composed of one

One of the Drives Through the Campus

freshman, two sophomores, three juniors, and three seniors, who are elected by the student body. There is, also, one member of the faculty, known as the faculty advisor, on whom the Council may call for assistance and advice.

MUSICAL ORGANIZATIONS

The Military Band of thirty pieces is an important adjunct to the cadet battalion. This organization receives instruction by a competent band master, throughout the college year, and ranks among the best concert bands of the state. The college band takes part in all local parades, military and civil, renders monthly concerts in the chapel during the second semester, and takes part in the program of commencement week. The band is subject to the call of the president for special occasions that may occur from time to time.

Men's and Girls' Glee Clubs, under the care of the director of the conservatory, add much to the strong musical combination of the school. These organizations present rare opportunities for musical culture, which should assume an important part in a collegiate education.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

Officers, 1916-1917

LINNE KLEMMEDSON	President
HOMER GRAHAM	Vice-President
ROY FOARD	Secretary
S. I. ROSS	Treasurer
H. L. SEAMANS	General Secretary

The Young Men's Christian Association stands for the highest ideals in college life. Habits formed during the college life tend in large measure to shape the students' life course. Each year the Colorado Agricultural College sends forth its quota of trained leaders. This leadership the Y. M. C. A. seeks to strengthen.

Object.—The Association has its existence in the belief that the most effective life is based on the principles exemplified in the life and teachings of Jesus Christ. To bring young men into vital contact with that life is the fundamental purpose of the association's activities.

Social Activities.—The association serves the student in practical ways. If possible, it gets in touch with him even before he leaves home for Fort Collins. Upon arrival, he is met by members of the New Student Committee. A friendly greeting and an offer of assistance help to break the spell of strangeness and make the new man feel at home in his new surroundings. Rooms are located, boarding places found, assistance given in regard to studies—in fact, everything possible of real service to a new man.

During the first week of school, "Stag" socials are held which bring all the men together for a social time and broaden acquaintance and promote good fellowship. Various social affairs occur throughout the year in connection with the Young Women's Christian Association.

Employment.—Among the most helpful features of the association is its Employment Department. No fee is charged. Any student desiring to earn all or a part of his expenses is welcome to avail himself of the help of this department. During the past year, students were enabled by this means to earn more than $5,000.

Religious Activities.—The religious work of the association includes Bible and mission study courses, arranged especially for college men. These classes meet each week in the rooms of the men, in the Y. M. C. A. rooms, in the fraternity houses, or in connection with the Sunday schools. The fellowship in these small groups with other young men who are fighting life's battles, is of great value to the young man. Weekly vesper services are held in co-operation with the Y. W. C. A. Young men are helped to form and hold to their standards of Christian manhood.

Information.—The General Secretary is the employed officer of the association and gives all his time to the work. He desires to be of service in every way possible. Feel free to write him for any desired information.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

Officers, 1916-1917

MARION SMALL	President
RUTH GREENWOOD	Vice-President
LYDIA WARREN	Secretary
ELIZABETH VANCE	Treasurer

The Young Women's Christian Association has had a place in this college since 1892. It is a part of the National Young Women's Christian Association, and of the world's organization, and its members feel the broadening effect of this union in spirit with the student women of the world.

Its purpose is to develop, during college days, by intercourse with strong Christian women from all the various churches, the vital religious life which finds its expression in service.

During the opening week of the college year, the association girls meet the new girls at the trains, and give them welcome, and such assist-

ance as they may need in finding the rooms recommended to each from the list of desirable homes filed with the Dean of Women. On Sunday, they are introduced to the church of their preference by the girls of their own denomination, and as the weeks go by, the new girls are helped, guided, and befriended. The association continues its social service during the year in sending flowers to the sick, providing wholesome fun in social afternoons or evenings at the college, furnishing a Rest Room for women, in Guggenheim Hall, and in such other ways as are from time to time possible.

Bible and mission study classes are provided, and regular mid-week devotional services extend further opportunities for religious growth during college days.

College Publications

In order that the editors, assistants, and business managers of student publications may receive the maximum training this work affords, the faculty committee on Student Publications, lends its assistance whenever it is needed. Under certain conditions, the editor-in-chief of the Collegian may receive each semester, two credits toward graduation, for work done as editor. Under similar conditions the editor-in-chief of the Silver Spruce may receive two credits the second semester.

The Rocky Mountain Collegian is a weekly publication put out by the student body, and it is the official publication of that body. It has as its aim the representation, in their true light, of the sentiments of the student body.

The officers are elected in the spring of each year to serve for the following year. The officers thus elected have full control of all matters pertaining to its publication.

Staff for Current Year

ALFRED FALK	Editor-in-Chief
FOSTER HUMPHREY	Associate Editor
R. R. ROBINSON	Business Manager
HAROLD GAYMAN	Local Editor
VIRGINIA THOMPSON	Society Editor
MARY COLLOPY	Literary Editor
BERNARD FLANNAGAN	Athletic Editor
DR. FLOYD CROSS	Alumni Editor
HAROLD J. RYAN	Exchange Editor

The Silver Spruce is a volume published annually by the junior class. It is a neatly printed, well bound book of two hundred or more pages. Its purpose is to give an accurate review of the school year in its every respect.

Staff for Current Year

HAROLD GAYMAN	Editor-in-Chief
EVELYN JONES	Associate Editor
R. B. MORAN	Business Manager
FRED MAIER	Advertising Manager
LEON QUINLAN	Photographer
MAX NEWELL	Assistant Photographer
ALEX GRANOVSKY	Artist
WM. YETTER	Assistant Artist
ALMA HEIDEE	Society Editor
BERNARD FLANNAGAN	Literary Editor
BLANCH HAMMOND	Assistant Literary Editor
JOHN NESBIT	Athletic Editor

Student Life Among the Girls—Dining-rooms and Living Quarters

The Extension Service*

Extension Service in Co-operation With the United States Department of Agriculture

H. T. FRENCH..............................Director

The Extension Service is definitely organized for carrying out the provisions of the Smith-Lever Act, in co-operation with the United States Department of Agriculture, and for carrying the results of the work of the Experiment Station and of the college in general to the people of the state. All the extension activities of the United States Department of Agriculture in Colorado, as well as all extension activities of the State Agricultural College, are under the direction of the Director of Extension.

Extension work is now being carried on under the following lines: County agricultural agents, boys' and girls' clubs, home economics demonstrations, farm management demonstrations, animal husbandry, markets and marketing, and general extension.

County Agricultural Agents.—Twelve county agricultural agents are at present serving the people and communities in eighteen counties of the state. A county agricultural agent might well be called an efficiency expert in community building, for he serves his entire community in many ways.

Boys' and Girls' Clubs.—Under this project effective practical work is being done among the boys and girls of the state in interesting them in the problems of agriculture and the home. During the year 1916, there were 3,323 boys and girls enrolled in these clubs in the twenty counties in which the work was carried on. Clubs are organized in corn growing, potato growing, gardening, bean growing, canning, poultry raising, pig raising, cow testing, sewing and cooking. A state leader and an assistant devote all their time to this work.

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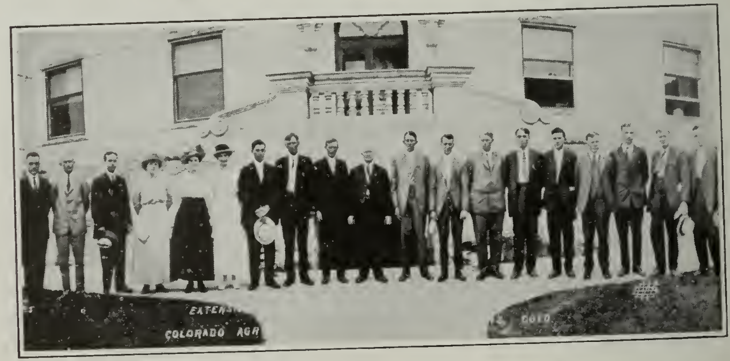
*For Extension Service staff see page 18.



The Staff of the Extension Service and the County Agricultural Agents

Extension Workers from Wyoming, Colorado, and New Mexico Gathered at the Agricultural College for Their Second Annual Conference in August, 1916.

Home Economics Demonstrations.—The specialist in this department spends practically all her time in the field, giving lectures and practical demonstrations to the farm women of the state along the line of home improvement, stressing particularly the problems of the kitchen.

Farm Management Demonstrations.—It is the purpose of this project to demonstrate to the farmer that farming is a business just as much as any other commercial enterprise, and that only by the application of business principles can it be made completely successful. Extensive surveys are made of the farms of the state, compilations of records thus secured are made, and the farmers are then shown the condition of their affairs from a business point of view.

Animal Husbandry.—The extensive livestock industry of the state and the rapidly growing interest in dairying demand the constant services of a trained specialist in animal husbandry such as is maintained by the Extension Service. Direct, practical lectures and demonstrations are conducted by this specialist, who also serves as live stock judge at many of the state fairs.

Markets and Marketing.—The farmers' problems are only half solved when he harvests his crop; the finding of a profitable market is, ndeed, frequently the most important problem. Through co-operation between the Extension Service, the Experiment Station and the Office of Markets and Rural Organization, United States Department of Agriculure, a specialist is maintained who is devoting all his time to assisting he farmer with this part of his farming operations.

Extension Schools.—A demand has arisen during the past few years or more complete courses for farmers and farm women than can be rovided in the ordinary farmers' institute. To meet this demand, extenion schools are organized, which are conducted for a week at a time nd for which the farmers pay a fee to defray the expenses incurred. his work is under the immediate supervision of the Director of Exension.

Publications.—Since the first of the fiscal year, which began July 1, 1916, thirteen bulletins have been published by the Extension Service. These bulletins were devoted to the following subjects: Dairying, home improvement, hog raising, books for the farmer's wife, and the work of the boys' and girls' clubs. They were written in a practical vein with the idea of giving the reader usable information free from technical detail. The boys' and girls' club bulletins were published to provide material for their club study and work. The annual report of the Service is included in these publications.

GENERAL EXTENSION

In addition to the various lines of extension work done in co-operation with the United States Department of Agriculture and with the Smith-Lever fund, much other work is done, the expenses of which are defrayed out of state funds.

Farmers' Institutes.—Large demands are made upon the Extension Service for assistance in the organization and conduct of farmers' institutes. These institutes are usually held under the auspices of farmers' organizations and the Extension Service, and an attempt is made to give the practical application of modern methods as well as the technical.

Colorado Farmers' Congress.—This organization has, since its establishment, worked in close co-operation with the Extension Service. The annual meeting is held in January of each year at the State Agricultural College and very effective work is resulting from the co-operation which exists between this body of farmers and the Extension Service.

Publications.—News Notes is the principal publication of this branch of the Extension Service. It is a weekly clip-sheet carrying timely articles written by the faculty of the college expressly for publication. News Notes is sent to every newspaper in Colorado and to the leading agricultural papers of the country, thus making available to the people a vast fund of valuable information.

An Outdoor Lecture to Farmers

Rural School Improvement.—A specialist is maintained who devotes a large portion of his time to the problems of the rural schools, conducting surveys, assisting in consolidation, aiding in the installation of courses in agriculture and home economics in the country schools, and otherwise promoting their advancement.

Special Services.—The college is glad to comply, so far as conditions and funds will permit, with requests for advice and assistance upon the problems of individual farmers and to supply speakers for farmers' unions, granges, agricultural picnics, and judges and speakers for local and county fairs. Local and traveling expenses of this service must be met by the localities benefited. During the year of 1916, 18,000 letters were written in answer to requests from Colorado people for information. Inquiries for service of this kind should be addressed to the Director of the Extension Service, Colorado Agricultural College, Fort Collins, Colorado.

Number of Persons Reached Last Year

The following table shows the number of persons reached by the various lines of service during the fiscal year ending June 30, 1916:

	Attendance
Farmers' Institutes and Extension Schools (297 sessions)	19,777
Farmers' and Housekeepers' Short Course	374
Colorado Farmers' Congress (delegates)	175
Meetings held by County Agricultural Agents (attendance)	45,393
Boys' and Girls' Clubs (members)	3,323
Farm Records taken	465
Rural School Improvement Service	12,598

The Agricultural Experiment Station*

C. P. Gillette............................Director

The Agricultural Experiment Station, organized under the laws of Congress, is an integral part of the Agricultural College. As the endowment given by the United States is a trust fund for the special purpose of scientific investigation of agricultural problems, no part of it can be used for any other purpose. Bulletins are issued as a means of disseminating the results of investigations. The government funds are appropriated under two acts of congress, known as the Hatch Act and the Adams Act, each giving $15,000 a year to the experimental work.

In order that the results of scientific investigation may be utilized, object lessons, explanations, and practical applications are needed. For example, the development or discovery of a plant adapted to particular conditions may be a proper subject of investigation under government funds, but the production and dissemination of improved seed could not be carried on with government funds. Such distribution is, however, important and necessary to utilize the scientific investigations so that inquiries other than the technical and scientific, may be of very great value in the improvement of agricultural practice. This need is met by state appropriations. The station now has a levy of .025 of a mill on all the taxable property of the state, making a fund of about $26,000 a year.

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*For Experiment Station Staff see page 17.

The Experiment Station also supplements the work of the college as an instructional institution by giving it an atmosphere of scientific investigation. The results of the work, published in bulletins in editions of from five to fifteen thousand, are scattered widely, not only through Colorado, but through every other state and civilized nation of the world.

The results of investigations and of related information have been published in 225 bulletins and numerous pamphlets and circulars. These are sent free, without postage, through the mails by authority of Congress, under the signature of the director. These bulletins cover investigations with irrigation, sugar beets, alfalfa, potatoes, grains, stock feeding, dairying, soils, weeds, fruits, cantaloupes, plant diseases, injurious insects, etc. The investigations of the experiment station laid the foundation for the development of the sugar beet industry in the state, so that, when favorable economic conditions were reached, the results of the scientific investigations were available and development was rapid.

One of the principal means of measuring water adopted throughout the western United States and adjacent countries is the result of the studies of our Experiment Station. The investigations in irrigation were the basis of the successful defense of the State of Colorado in the famous Kansas vs. Colorado suit over the waters of the Arkansas River. If Colorado had lost this suit, it would have prevented almost entirely the further development of irrigation in the western United States. The rapid development of the past few years has come since that case was decided by the United States Supreme Court.

The studies of the codling moth, plant lice, leaf-roller, and other pests, have resulted in intelligent control of these important injurious insects. The station has been instrumental in the development of varieties of grain adapted to high altitudes like the San Luis Valley. It has also given considerable attention to the plains and has been a help to settlers there. It has prevented the destruction of the cantaloupe, and has found the cause of some obscure troubles in the fruit industry. It has also determined the causes of the so-called "brown spots," or "black alkali," of some of our soils. The results of this investigation will prove a great benefit to the agriculture of the West. The work made possible by the state appropriations has helped to develop the potato industry of the state and to make it more profitable. The station employees answer thousands of letters of inquiry annually.

The various lines of activity make the station of great service to the state and nation and a strong factor in the instructional work of the college.

A leaflet giving the names of available bulletins that have been printed, will be furnished upon application to the director. Available bulletins will be sent on request. Future publications will be sent regularly, if a request is made to be placed on the mailing list.

Register of Students

In the following list, An. H. stands for Animal Husbandry; Agro., for Agronomy; A., for Agriculture; C. E., for Civil and Irrigation Engineering; G. S., for General Science; H. E., for Home Economics; Eng., for Engineering; E. E., for Electrical Engineering; Ent., for Entomology; For., for Forestry; H., for Horticulture; M. E., for Mechanical Engineering; Vet., for Veterinary Medicine.

SENIORS

NAME	COURSE	ADDRESS
Abbott, Earl	C. E	Fort Collins
Adams, Bessie	G. S	Ouray
Adams, Nyal	C. E	Fort Collins
Alford, Clark	Hort	Castle Rock
Alkire, Edward	Vet	Fort Collins
Antles, Leo	Ent	Fort Collins
Apeseche, Ovidio B	C. E	Buenos Aires, S. A.
Arnold, Lutie	H. E	Denver
Axtens, Edith	H. E	Fort Collins
Baker, Lena	H. E	Fort Collins
Baker, Edith	H. E	Fort Collins
Barnes, Lincoln W	G. S	Fort Collins
Becker Roscoe	Vet	Fort Collins
Black, Tanjor T	C. E	Whitehall, Mont.
Blaney, Fern	H. E	Greeley
Briggs, Bessie	H. E	Fort Collins
Brown, Wilbur	Vet	Fort Collins
Bruner, Glen	C. E	Sterling
Burton, Edith	H. E	Fort Collins
Burton, Margaret	H. E	Pueblo
Bush, J. Harry	C. E	Colorado Springs
Carnahan, Clarence	Vet	Fort Collins
Chisholm, Francis	Hort	Del Norte
Collopy, Mary	H. E	Fort Collins
Crane, Nellie	H. E	Fort Collins
Danielson, Myrtle	H. E	Fort Collins
Davis, Florence	H. E	Denver
Day, Flossie	G. S	Larkspur
Decker, Wallace	Vet	Paonia
Doehling, Carl	C. E	Denver
Dormer, Ira	Agro	Fort Collins
Douglass, Erma	H. E	Fort Collins
Early, Florence	H. E	Berthoud
Elder, Ada	H. E	Denver
Essex, Charles Eugene	Agro	Pueblo
Falk, Alfred	C. E	Davenport, Iowa
Farr, Gladys	H. E	Greeley
Feldman, William	Vet	Paonia
Finney, Maude	H. E	Fort Collins
Foster, N. Lee	Hort	Denver
Freed, Ralph	C. E	Castle Rock
Gage, Elizabeth	H. E	Denver
Gorton, Max	M. E	Kiowa
Graham, Homer	C. E	Montrose
Greenwood, Ruth	H. E	Hotchkiss

NAME	COURSE	ADDRESS
Griffin, Myron	Agro	Fort Collins
Grigsby, John	Vet	Wray
Hahn, Cecil	H. E.	Denver
Hall, Carl M.	Vet	Fort Collins
Hellbeck, Oscar	C. E.	Pueblo
Hiner, Edna	G. S.	Fort Collins
Hoffman, Coy	M. E.	Fort Collins
Humphrey, Foster	Ent	Pueblo
Humphrey, Helen	G. S.	Fort Collins
Hutton, Alexander	An. H.	Fort Collins
Ikeda, Kunihei	An. H.	Hukushima Ken, Japan
Ingram, Lester	Vet	Fort Collins
Jenkins, Elsie	H. E.	Denver
Johnson, George	Vet	Denver
Joy, Harold	An. H.	Denver
Kelley, Arthur	For	Fort Collins
Kettle, Frances	H. E.	Fort Collins
Kidder, Waldo	Agro	Loveland
Kneiling, Walter	An H.	Denver
Koppe, Minnie	H. E.	Delta
Kreutzer, Agnes	H. E.	Gunnison
Lake, Marion	H. E.	Cheyenne Wells
Lamm, Hazel	H. E.	Golden
Law, George	M. E.	Fort Collins
Light, Helen	H. E.	Snow Mass
Light, Nellie	H. E.	Fort Collins
Loss, Robert	An. H.	Montrose
Madaresz, Jesse	An. H.	Fort Collins
Marlow, Irene	H. E.	Denver
McCandless, Leon	Vet	Craig
McCrum, Gertrude	H. E.	Denver
McKeown, R. Bruce	Ent	Fort Collins
McKinley, Howard	E. E.	Ault
McLaughlin, Richard	An. H.	Denver
Moore, C. Creigh	An. H.	Montrose
Myers, Vere W.	Vet	Fort Collins
Nelson, Myrtle	H. E.	Fort Collins
Nutter, Kathleen	H. E.	Delta
Patterson, Clarence	An. H.	Denver
Parker, Gretchen	H E.	Fort Collins
Penley, Dora	H. E.	Sedalia
Penley, Gerald	An. H.	Sedalia
Putman, John E.	An. H.	Fort Collins
Putty, Gowan	C. E.	Denver
Reeves, Dorothea	H. E.	Denver
Robinson, Ralph R.	Hort	Denver
Rundahl, Earl	Vet	Canon City
Ruttencutter, Friend	An. H.	Clarksburg, W. Va.
Sargent, Elmer L.	G. S.	Fort Collins
Schneider, William	An. H.	Denver
Scott, William J.	Vet	Fort Collins
Shepardson, Charles	An. H.	Fort Collins
Small, Marion	H. E.	Denver

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Smith, Bessie	H. E.	Denver
Smith, Ralph	An. H.	Fort Collins
Spencer, Harry	M. E.	Montrose
Spurgeon, Marie	H. E.	Longmont
Stanton, Oscar	G. S.	Fort Collins
St. Clair, Katherine	H. E.	Fort Collins
Stiers, Flavious	E. E.	Canon City
Sweet, Stuart	An. H.	Denver
Sweetman, Philip	Agro	Las Animas
Taylor, Clifford C.	An. H.	Fort Collins
Thomas, Herbert	Agro	Fort Collins
Tucker, Victor R.	An. H.	Craig
Tucker, Rodney	An. H.	Craig
Weigand, Harry	Vet	Rocky Ford
Welty, John	Vet	Boulder
White, Claude	Ent	Loveland
Williams, Harold	C. E.	Denver
Woodard, Lucille	H. E.	Sterling
Woolley, G. Allen	An. H.	Denver

JUNIORS

Adams, Otto V.	C. E.	Fort Collins
Akin, Wayne M.	An. H.	Fort Collins
Alexander, Harold	An. H.	Reno, Ill.
Alexander, Zenada	H. E.	Fort Collins
Alstead, Ralph	Vet	Fort Collins
Argall, Gladys	G. S.	Denver
Back, Winifred	H. E.	Gothenburg, Nebr.
Beck, Verner	An. H.	Denver
Blackburn, Harold	Agro	Long Beach, Calif.
Blair, Glen	An. H.	Montrose
Brothers, H. Verne	An. H.	Fort Collins
Burtis, Earl F.	Agro	Akron
Burton, Bertha	H. E.	Longmont
Carr, George	Vet	La Jara
Carroll, Wilbur K.	Vet	Manitou
Carter, Vera	H. E.	Fort Collins
Chapman, Ed	Vet	Pinnacle
Chase, Charles	Vet	Littleton
Colton, Cyril	Vet	Fort Collins
Cooper, George W.	Vet	Denver
Crane, Florence	H. E.	Fort Collins
Crow, Hazel	H. E.	Fort Collins
Dunn, Mary Alice	H. E.	Durango
Dusell, Ernestine	H. E.	Denver
Eldridge, Harvey	M. E.	Greeley
Ferguson, Cecilia	H. E.	Fort Collins
Flanagan, Bernard	C. E.	Victor
Fountain, Lillian	H. E.	Alamosa
Gaymon, Harold	Hort	Denver
Gooding, Harold	Hort	Chicago, Ill.
Grandy, Max	An. H.	Pueblo
Granovsky, Alexander	Ent.	Kiev, Russia
Grant, Jane	H. E.	Leadville
Grattin, Worthin	An. H.	Broomfield

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Hale, Helen	H. E.	Bellvue
Hammond, Blanche	H. E.	
Hammond, Dorothy	H. E.	Denver
Hankins, J. Harlan	An. H.	Berthoud
Harvey, Grace	H. E.	Grand Junction
Heidee, Alma	H. E.	Denver
Hoagland, Dale	Hort	Pueblo
Hollmer, Irene	H. E.	Denver
Horn, Jennie	H. E.	Lamar
Hover, Eugene	Vet	Lamar
Irelan, Norene	H. E.	La Junta
Jamieson, Elsie	H. E.	Trinidad
Jensen, Karl	Vet	Gypsum
Johnson, Edwin	M. E.	Denver
Jones, Florence	H. E.	Fort Collins
Jones, Evelyn	H. E.	Denver
Kimball, Ernest	An. H.	Douglas, Wyoming
Kimball, Frank	C. E.	Denison, Texas
Kimbrough, Nelson	An. H.	Denver
Klemmedson, Linne	An. H.	Colorado Springs
Knapp, Arthur	E. E.	Fort Collins
Lawver, Edgar	C. E.	Denver
Littell, Lura Faye	H. E.	Rocky Ford
Maier, Fred	Agro	Longmont
Mason, Laura	H. E.	Greeley
Mathews, Harry	C. E.	Paonia
May, William	For	Fort Collins
McAllister Jack	For	Central City
Megahan, Fred	An. H.	Denver
Meyer, Eddie	An. H.	Fort Collins
Miles, Halbert	An. H.	Denver
Miller, Otto	Vet	Fort Collins
Mills, Niles	An. H.	San Luis Obispo, Cal.
Miner, Bernard	C. E.	Greeley
Miner, Sterling L.	Agro	Fort Collins
Moran, Richard	E. E.	Florence
Nelson, Monroe	Vet	Fort Collins
Nesbit, John	C. E.	Canon City
Newell, Maxwell	C. E.	Denver
Newton, J. Harry	Ent.-Hort	Tempe, Arizona
Nicholls, Henry	C. E.	Denver
Nielsen, Edward	Vet	Pueblo
Northrup, Hobart	C. E.	Denver
Paxton, Glenn E.	Agro	Fort Collins
Phelps, Winnie	C. E.	Fowler
Porter, Fay	H. E.	Pueblo
Pratt, Harold	C. E.	Denver
Proctor, Ruth	H. E.	Loveland
Quinlan, Leon	Hort	Olathe
Ramsey, Harold	M. E.	Littleton
Rewalt, Alice	H. E.	Boulder
Richards, Russell	E. E.	Littleton
Robenstein, Clifford	Vet	Loveland
Robinson, Ellen Gale	H. E.	Denver

NAME	COURSE	ADDRESS
Schofield, Mary	H. E	Fort Collins
Simpson, Lloyd	An. H	Fort Collins
Simpson, Ina	H. E	Fort Collins
Simpson, Vernon	H. E	Grand Junction
Smith, Harvey	Vet	Denver
Smith, Leonard	Vet	Grand Junction
Spangler, William	An. H	Denver
Spratlin, Maceo	Vet	Denver
Stallings, William	E. E	Fort Collins
St. John, Inez	H. E	Colorado Springs
St. Clair, Beatrice	H. E	Fort Collins
Stewart, Thomas	Agro	Fort Collins
Strachan, Ida	H. E	Fort Collins
Sweetman, William	Vet	Las Animas
Thompson, Herbert	E. E	Fort Morgan
Thompson, Charles	C. E	Montrose
Thompson, Virginia	H. E	Platteville
Thornton, Bruce	An. H	Loveland
Tiffany, Herbert	An. H	La Grange, Ill.
Vaplon, Lawrence	Agro	Fort Collins
Veverka, Marie	H. E	Sterling
Wells, Charles	E. E	Wheatridge
Williams, Ruth	H. E	Cripple Creek
Wilmot, Clement	Vet	Denver
Winburn, Beulah	H. E	Rocky Ford
Yetter, William	Ent	Denver
Young, Harvey	Vet	Fort Collins
Zollner, Elsie	H. E	Fort Collins

SOPHOMORES

Anderson, Lionel	A	Fort Collins
Annand, James	A	Hotchkiss
Baier, Lizzie	H. E	Buena Vista
Baker, Bruce	Vet	Meeker
Baldwin, Mildred	H. E	Sterling
Barr, George	A	Wellington
Barton, Dorothy	H. E	Pueblo
Beck, Carl	A	Denver
Beckman, Francis	Vet	Goldfield
Beeson, Willis	Vet	Trinidad
Benell, Otto	A	Fort Collins
Binford, Berda	H. E	Denver
Binkley, Lucy	H. E	Wheatridge
Black, Jesse	A	Whitehall, Mont.
Blinn, Warren	A	Rocky Ford
Bliss, Clarence	A	Greeley
Booton, Frank	Vet	Maybell
Bowen, James	Eng	Colorado Springs
Boyd, Zeta	H. E	Denver
Braiden, Louis	A	La Jara
Breed, Grace	H. E	Fort Collins
Brickson, Rolf	Eng	Telluride
Brinley, Floyd	A	Mintern
Brown, Lawrence	A	Denver
Cameron, Mabel	A	Barr Lake
Cantrill, Frank	A	Castle Rock

NAME	COURSE	ADDRESS
Chandler, Lowell	A	Fort Collins
Childs, John	A	Denver
Clarke, Helen	H. E	Akron
Cochran, Samuel	A	Fort Collins
Collins, Lawrence	A	Denver
Collopy, Laura	H. E	Fort Collins
Correy, Anna H.	H. E	Denver
Coulter, Ferne	H. E	Fort Morgan
Cox, Florence Mabel	H. E	Collbran
Cozzens, James	A	Greeley
Craun, Ergen	A	Grand Junction
Cross, Helen	H. E	Loveland
Currie, Ethel	H. E	Fort Collins
Currie, Mamie	H. E	Fort Collins
D'Amour, Fred	A	Denver
D'Amour, Elizabeth	H. E	Denver
Dawson, Burwell	A	Denver
Dickinson, Mildred	H. E	Fort Collins
Dimmitt, George	A	Denver
Donaldson, Howard	A	Denver
Dotson, Harry	A	Tulsa, Okla.
Doyle, Thomas	Eng	Pueblo
Drager, Myron	A	La Porte
Eddings, Zela	H. E	Fort Collins
Ellis, Douglas	A	Denver
England, Bessie	H. E	Fort Collins
English, Edgar	A	Greeley
Epperson, Ethel	H. E	Aspen
Ewing, Millard	A	Fort Lupton
Farquharson, James	Vet	Pueblo
Foard, Roy	A	Doniphan, Mo.
Foard, Ina	H. E	Doniphan, Mo.
Foltz, Lucille E.	H. E	Fort Collins
Fuller, Ruth	H. E	Denver
Grant, Winifred	H. E	Denver
Griffin, Helen	H. E	Carr
Griswold, Estelle	H. E	Fort Collins
Griswold, Frank	A	Denver
Hall, Clarence	A	Cedaredge
Hayes, Helen	H. E	Victor
Haythorn, Hattie	H. E	Eaton
Hoch, Carl	A	Yuma
Hoerner, John	A	Las Animas
Howard, Ella	H. E	Breckenridge
Hughes, Ethel	H. E	Wood River, Nebr.
Hutton, Henry	A	De Beque
Ickes, Mary	H. E	Fort Collins
James, Russell	Eng	Fort Collins
Jones, Elbert	Eng	Victor
Kemp, Ward	A	Denver
Kinney, Helen	H. E	Fort Collins
Kirk, Jane	H. E	Culbertson, Nebr.
Landers, Sigmund	A	Loveland
Large, Wayne	Eng	Denver

NAME	COURSE	ADDRESS
Light, Mildred	H. E	Snow Mass
Long, John	Vet	Fort Collins
Logan, Grace	H. E	Cheyenne, Wyo.
Lynch, Victor	Eng	Colorado Springs
Mann, Doris	H. E	Denver
Martin, Dorothy	H. E	Denver
Mayhoffer, J. David	A	Louisville
Means, Rhoda Pearl	H. E	Salida
Medill, Esther	H. E	Rye
Michel, Paul	A	Adena
Miks, Mona	H. E	Denver
Morrison, Ardella	H. E	Fort Collins
Netherton, Crystal	H. E	Fort Collins
Nettleton, Harry	A	La Porte
Newlander, Ernest	A	Denver
Oldemeyer, Clarence	A	Brush
Omara, Frances	A	Denver
Onrubia, Apolonio	A	Malate, P. I.
Osborn, Lester	A	Fort Collins
Palmer, Russell	Eng	Steamboat Springs
Patten, Ivan	A	Denver
Parker, Harry	A	Denver
Pilz, Bernard	Eng	Georgetown
Plumb, Margaret	H. E	Greeley
Port, Romaine	H. E	Denver
Post, John H.	A	Denver
Reed, Earle	A	Fort Collins
Reeder, Clarence	Eng	Durango
Ross, Arthur	A	Fort Collins
Root, Homer	A	Loveland
Rosenberg, Gladys	H. E	Fort Collins
Rosenthal, Arthur	A	Denver
Rothrock, Naylor	A	Denver
Ryan, Harold	A	Fort Collins
Sampson, Ida	H. E	Pueblo
Sandusky, Harry	A	Salida
Sandusky, Cora Leah	H. E	Salida
Schiele, Lewis	A	Denver
Schwartz, Rudolph	A	
Scilley, Charlotte	H. E	
Scott, Harry	Vet	Loveland
Secrest, Fred	A	Fort Morgan
Sharp, Gertrude	H. E	Arvada
Slockett, Esther	H. E	Denver
Smith, James	A	Fort Collins
Smith, Hugh	A	Aurora
Smith, Jessie	H. E	Castle Rock
Spidel, George	A	Denver
Stevens, Harley	A	La Junta
Stewart, Alexander	A	Pueblo
Stitt, Gladys	H. E	Ault
Stoneback, Florence	H. E	Brush
Strong, Veda	H. E	Fort Collins
Trammel, Nellie	H. E	Lamar
Van Brimer, Bessie	H. E	Pueblo

NAME	COURSE	ADDRESS
Walker, Grant	Eng	Pueblo
Walsh, James	Vet	Leadville
Ward, Marion	H. E	Denver
White, Herbert	A	Pueblo
Wight, Carroll	A	San Diego, Calif.
Williams, Jay	Eng	Denver
Williams, Amy	H. E	Fayette, Idaho
Williams, Beth	H. E	Fort Collins
Williams, Edith	H. E	Walsen
Williams, Lucille E	H. E	Pueblo
Willson, R. Duff	A	Fort Collins
Winslow, Hugh	Eng	Fort Collins
Wonders, William	A	Delta
Woodhams, Ramona	H. E	Denver
Woody, Willard	A	Salida
Zollner, Catherine	H. E	Fort Collins

FRESHMEN

NAME	COURSE	ADDRESS
Allen, Robert	Vet	Fort Morgan
Anderson, Everett	A	Denver
Andrews, Bruce	A	Denver
Andrews, Ivan	A	Denver
Bain, Charles	Vet	Parlin
Balch, Wilbur	A	Greeley
Bandy, Ruth	H. E	Phoenix, Ariz.
Bebee, Hazel	H. E	Cripple Creek
Becker, R. A.	A	Fort Collins
Becker, Buryl	Eng	Fort Collins
Beers, Archie	A	Fort Collins
Bender, Gladys	H. E	Colorado Springs
Bender, Thomas L	A	Colorado Springs
Benell, Orril	H. E	Fort Collins
Bennet, Aubrey	A	Denver
Bishopp, Glenna	H. E	Longmont
Blanch, John	A	Denver
Bolles, Ralph	A	Crowley
Bond, George F	Eng	Estes Park
Borresen, Victor	Eng	La Crosse, Wis.
Bowles, Volney	A	Denver
Branshaw, Charles	A	Fort Collins
Brolliar, Emery	A	Fort Collins
Brown, A. Ellsworth	A	Denver
Brown, J. Lane	Vet	Pueblo
Brown, Hallett	Eng	Fort Collins
Brown, Alice	A	Fort Collins
Brown, Gladys	H. E	Mancos
Brown, Bessie	H. E	Fort Morgan
Brown, Mary	H. E	Denver
Brown, Weltha	H. E	Paonia
Brubaker, Otto	A	Victor
Bucher, Earl	A	Greeley
Bunte, Chester	Vet	Stillwater
Burger, Ray Maxwell	A	Golden
Burger, Elmer W	Eng	Fort Collins
Burgess, Harold	A	Fort Collins
Cahill, Elizabeth	H. E	Fort Collins
Calderhead, Elizabeth	H. E	Cameo
Callahan, Alice	H. E	Colorado City

NAME	COURSE	ADDRESS
Cameron, Bruce	A	Barr Lake
Campbell, Harvey	Vet	Fort Collins
Campbell, Bayard	A	Palisade
Carlton, Ernest	Eng	Fort Collins
Carpenter, Clarice	H. E	Overton, Nebr.
Carr, David	Eng	Mancos
Clancey, Catherine	H. E	Denver
Cochran, Margaret	H. E	Fort Collins
Coll, Pete S.	A	Independence
Collins, Aileen	H. E	Denver
Comer, Harry	A	Rocky Ford
Copeland, Ernest	Vet	Lamar
Courtwright, Gertrude	H. E	Colorado City
Cover, Jerre	A	Rocky Ford
Cox, Charles	Vet	Canon City
Cox, Grace Myrtle	H. E	Collbran
Crain, Ena M.	H. E	Cheyenne, Wyo.
Crane, Charles E.	A	Fort Collins
Curtis, Hiram	Eng	Olathe
Curtis, Jim	Vet	Saguache
Cutler, Mary	H. E	Payton
Cutting, Clifton	A	Chicago, Ill.
Davis, Charles	A	Denver
Dawson, Sheldon	A	Hooper
Devine, Grace	H. E	Cheyenne, Wyo.
Dewey, Clarence	A	Denver
Dickson, George B.	A	Steamboat Springs
Dilts, L. William	Vet	Colorado Springs
Downing, Wayne	A	Lamar
Dunlap, Bernice	H. E	Aurora
Dykstra, Frank	Vet	Akkrum, Holland
Easterling, C. Herbert	Vet	Denver
Eaton, Phyllis	H. E	Fort Collins
Edgar, Mildred	H. E	Ordway
Edwards, Pauline	H. E	Norman, Okla.
Eldridge, Hubert	A	Fort Collins
Ellison, Homer	A	Denver
English, Dorothy	H. E	Greeley
English, Agnes	H. E	Greeley
Exter, Harold	Vet	Gunnison
Farnsworth, Murl	A	Monte Vista
Falk, Erwin	Eng	Davenport, Iowa
Ferguson, Sayre	Eng	Fort Collins
Fish, Arthur	A	Wheatland, Wyo.
Fitzsimmons, John	A	Denver
Franklin, Otho	A	Fort Collins
Fredlund, Fred	A	Fort Collins
Freeman, Walter	A	Denver
Fulton, Harriett	H. E	Colorado Springs
Garrett, Helen	H. E	Fort Collins
Goe, John	A	Denver
Graham, James	Eng	Loveland
Graham, Harold	A	Canton, Ill.
Greenwood, Mary	H. E	Hotchkiss
Greer, Elva	A	Calhan
Hall, Pauline	H. E	Cedaredge
Hallam, Albert	A	Fort Collins

NAME	COURSE	ADDRESS
Harrington, Glen	Vet	Leadville
Hause, Laurence	A	Fort Lupton
Hay, John L.	A	Denver
Heisen, Olga	H. E	Denver
Hemphill, Lester	Eng	Montrose
Henry, Elsa	H. E	Denver
Herrington, Eugene	Eng	Pierce
Hiner, Mildred	H. E	Fort Collins
Hoffman, Carl	A	Denver
Horne, Stillman Q	Vet	Denver
House, Miles	A	Terre Haute, Ind.
Hunt, Dale	A	Maybell
Hunt, Alice	H. E	Hesperus
Hutchinson, Jessie	H. E	Eaton
Jans, Fred	A	Fort Collins
Jefferson, Clara	H. E	Canon City
Johnson, Alice	H. E	Fort Collins
Johnson, Edna	H. E	Holyoke
Johnson, Mildred	H. E	Ni Wot
Kasdorf, Fred	Vet	Golden
Keirsey, Harold	Eng	Fort Collins
Kimball, Margaret	H. E	Idaho Springs
Kneale, Dora	H. E	Ni Wot
Kroll, Arthur	A	Gunnison
Lannon, Granville	A	Pueblo
Larsen, Russell	A	Trinidad
Larson, Ahlburn	A	Fort Collins
Lawson, May	H. E	Louisville
Lawver, Gertrude	H. E	Denver
Leach, Katherine	H. E	Denver
Leiby, Edward	Vet	Fort Collins
LeMaster, Lella	H. E	Fort Collins
Leonard, Robert	A	Scottsbluffs, Neb.
Lewis, Marjorie	H. E	Trinidad
Lilley, William, Kase	A	Littleton
Lynch, Philip	A	Denver
Macomb, Richard	A	Durango
Maris, Rita	H. E	Fort Morgan
Marr, Charles	Vet	Denver
Morrow, John	A	Raton, New Mexico
Mathews, Frank	Vet	Pueblo
Mayhoffer, William	A	Louisville
McCain, Edith	H. E	Delta
McCauley, Paul	Vet	La Junta
McClain, Mary	H. E	Manzanola
McElvain, James	A	Auburn, Ill.
McGregor, Margaret	H. E	Denver
McHugh, Jerome	Eng	Fort Collins
McIntosh, Robert	Eng	Fort Collins
McKenna, William J	Eng	Colorado Springs
McKelvey, Macy	Eng	Greeley
McKinstry, John	Vet	Canon City
McKissen, H. Escol	Eng	Crawford
McLain, Charles	A	Denver
McMillen, Raymond	A	Lamar
McMurtry, Joseph	Vet	Holly
McNamee, Laughlin	A	Hesperus

NAME	COURSE	ADDRESS
Means, Truman	Vet	Salida
Mendenhall, Floyd	Vet	Granada
Miller, Marjorie	H. E	Denver
Mitchell, Mildred	H. E	Hanna, Wyoming
Morgan, Lila	H. E	Palisade
Moorhead, Myron	Eng	Wheatridge
Murray, Phillip	A	Denver
Mussey, William O	A	Denver
Nelson, Ralph E	Vet	Fort Collins
Nesbitt, Warda	H. E	Montrose
Netherton, Virgil	A	Gallatin, Mo.
Nye, Eugene	Eng	Bennett
O'Brien, Jesse	A	Fort Collins
Olsen, M. Luther	Vet	Littleton
Page, Harold	Eng	Greeley
Painter, Gladys	H. E	Colorado Springs
Paulsen, Louise	H. E	Denver
Peasley, J. Paul	A	Fort Collins
Pelta, Marie Alice	A	Buena Vista
Pendergast, Margaret	H. E	Fort Collins
Perkins, Olive	H. E	Kremmling
Perkins, Ella	H. E	Kremmling
Perkins, Grace	H. E	Kremmling
Peters, Carl	A	Longmont
Petty, Henrietta	H. E	Fort Collins
Poliak, Meyer	Eng	Trinidad
Prevost, Victor	A	Pueblo
Rader, Lynn	A	Denver
Randolph, P. L	A	Fort Collins
Randolph, Hazel	H. E	Fort Collins
Ray, Clara	H. E	Fort Collins
Ray, Frank	A	Lamar
Read, James	A	Denver
Renier, Hazel	H. E	Colorado Springs
Rhoades, James	Eng	Kit Carson
Rich, Gaylord	A	Denver
Robinson, J. Russell	Eng	Fort Collins
Rudolph, Talbot	A	Denver
Ryer, Mary	H. E	Denver
Sauer, Charles	Eng	Denver
Schaefer, Irving	A	Denver
Schell, Blanche	H. E	Fort Collins
Schuelke, Nathan	Eng	Cheyenne Wells
Scott, Joseph	A	Montrose
Shahan, Maurice	A	Alamosa
Sholine, John	A	Fort Collins
Shultis, Mary	H. E	Ouray
Sillers, Donald	Eng	Denver
Slater, Merrill	A	Nederland
Slick, Bee	H. E	Ridgway
Slocum, Flora	H. E	Haswell
Slocum, Arthur	A	Haswell
Slockett, Bernice	H. E	Fort Collins
Slusser, Charles	Eng	Julesburg
Smith, David	A	Meeker
Smith, Alma	H. E	Grand Junction
Smith, Fred	Eng	Sterling

NAME	COURSE	ADDRESS
Solt, Leland	A	Boulder
Spangler, Ralph	A	Harlan, Neb.
Sprague, Gertrude	H. E	Fort Collins
Sternberg, Morris	A	Denver
Stevenson, Julia	H. E	Fort Collins
Stratton, Walter S. Jr.	A	Boulder
Strohm, William	Eng	Denver
Stuart, James	A	Alamosa
Studt, Ward B.	A	Grand Valley
Sweitzer, Paul	A	Delta
Sullivan, Frank	Vet	Durango
Tanner, Orra	H. E	Denver
Taylor, William	Eng	Fort Collins
Thomas, Luther	Eng	Salida
Thomas, Enoch	Vet	Barneville, Wis.
Vaughan, Frederic T.	Eng	Denver
Vaughn, Howard	A	Colorado Springs
Vondy, Vernon	A	Brush
Wadleigh, Herbert	Vet	La Junta
Walek, Louise	H. E	Sterling
Walker, Harry	Eng	Goldfield
Whatley, Earl	Vet	Fort Collins
Ward, J. Charles	A	Littleton
White, Merle	A	Fort Collins
Wilson, Olive	H. E	Cedaredge
Wiswell, Everett	A	La Junta
Woodard, Ray	Vet	Saguache
Worthington, Robert	A	Denver
Young, Albert	A	Montrose

UNCLASSIFIED

Adams, Mrs. Elsie	Fort Collins
Barrows, Paul	Denver
Beall, Vera	Rocky Ford
Bland, John	Denver
Bliss, Mark	Greeley
Briggs, Walter	Fort Collins
Brown, James A.	Fort Collins
Chisholm, J. Donald	Del Norte
Cheese, Naomi	Payton
Demaray, Ruth L.	Holly
Dickinson, Esther	Fort Collins
Emmerich, Regina	Denver
Exter, Herbert	Fort Collins
Finger, Dorothy	Fort Collins
Finger, Ted	Fort Collins
Fisk, Gilmore	Tempe, Arizona
Foster, Dwight	Paonia
Golden, Carl	Longmont
Gates, Rufus	Scottsbluffs, Neb.
Grant, Robert	Fort Collins
Greenamyre, Katherine	Fort Collins
Ham, Della	Hasty
Harwood, Mrs. Jessie	Silverton

NAME	ADDRESS
Hendricks, Walstein	Richmond, Utah
Herschler, Bula	Colorado Springs
Hughes, Mrs. H. W	Fort Collins
Igo, Jerome	Fort Collins
James, Clarence	Lamar
Johnson, Leonard	Fort Collins
Lee, Howard C	Seoul, Korea
Lough, Alexander	Pataskala, Ohio
Maxwell, Ralph	Fort Collins
May, Eleanor	Penrose
Miller, Mary J	Fort Collins
Newell, Dora	Berthoud
Ogle, Alfred	Fort Collins
Orr, Harvey	Boulder
Pierce, Anna L	Pueblo
Robbins, Lowell	Colorado Springs
Robinson, Charles	Moenville, So. Dak.
Sackett, Gertrude	Telluride
Schmidt, G. J	Fort Collins
Tudor, Alvin	Fort Collins
Ward, Ethelbert	Denver
Wolf, Lyle	Fort Collins
Wood, Hettie	Paris, Texas
Warner, Wyllys E	Fort Morgan

CONSERVATORY

Adams, Elizabeth B	Ouray
Akin, Grace D	Fort Collins
Akin, Phebe L	Tinmath
Alfurt, Helen	Fort Collins
Aldrich, Elizabeth V	Virginia Dale
Anderson, Ruth J	New Wattenberg
Anderson, Esther	Laplata, N. Mex.
Atlwarck, S.	Denver
Bay, Mable	Fort Collins
Beall, Vera	Fort Collins
Beall, George R	Fort Collins
Becker, Mrs. Roscoe	Fort Collins
Becker, Mary G	Norwood
Becker, Buryl I	Fort Collins
Beebe, Norma W	Fort Collins
Bender, Gladys	Colorado Springs
Bender, Thomas	Colorado Springs
Bengston, Edna	Longmont
Berry, Frank C	Romeo
Bellingslea, Anna L	Loveland
Bolen, Clarence R	Loveland
Bottoms, Harley L	Boulder
Bottolfson, Cornelia R	Minturn
Brown, Harry A	Swallows
Brown, Osa C	Eaton
Brubaker, Otto C	Victor
Brunstein, Harry	Fort Collins
Brunstein, Lillian	Fort Collins
Burton, Lillian	Fort Collins

NAME	ADDRESS
Campbell, Mayme	Bayfield
Carpenter, Mrs. Helen	Loveland
Chalmers, Kenneth W.	Hartsel, South Park
Chandler, Olive	Fort Collins
Baker, Charlotte A.	Fort Collins
Chedsey, Sadie	Coalmont
Cooper, Lera M.	Fort Collins
Connors, Helen	Fort Collins
Connors, Laura	Fort Collins
Coulter, Fern	Fort Morgan
Cox, Grace M.	Collbran
Cox, Mable	Collbran
Crain, Ena M.	Cheyenne, Wyo.
Crowley, Mattie	Worland, Wyo.
Daley, Lyra M.	Fort Collins
Deighton, William H.	Meeker
Demaray, Ruth L.	Holly
Devine, Grace V.	Cheyenne Wyo.
Dickinson, Esther M.	Fort Collins
Dimius, Archie	Lamar
Eaton, Phyllis M.	Fort Collins
Edwards, Jennie F.	Fort Collins
Egry, Anna	Dunkley
Egry, Mary	Dunkley
Ferguson, Celia L.	Fort Collins
Fisher, Dwight A.	Fort Collins
Flesher, Gail	Smithville, W. Va.
Foard, Ina	Doniphan, Mo.
Foltz, Lucille E.	Fort Collins
Foote, Edna D.	Loveland
Frank, Ralph	Fort Collins
Fredstrom, Ruth	Longmont
French, Carrie C.	Fort Collins
Friend, Lucy A.	Boulder
Garrett, Irene M.	La Porte
Garrison, Eula F.	Las Animas
Gates, Rufus C.	Scottsbluff, Neb.
Gevrez, Opal E.	Loveland
Graham, Geo. P.	Fort Collins
Ham, Amy	Hasty
Ham, Inez	Hasty
Hammond, Dorothy	Denver
Hanson, Lillian	Cowdrey
Haltem, Ruth R.	Waverly, Iowa
Hoch, Carl J.	Yuma
Haddle, Mabel P.	Denver
Holloway, Viola	Rush
Hopkins, Margaret	Denver
Horrell, Lulu P.	Leadville
Hughes, Lotta B.	Eaton
Hughes, Ethel J.	Wood River, Nebr.
Hunter, Lillian	Fort Collins
Jackson, Pansy M.	Fort Collins
James, Clarence D.	Lamar
Jans, Martha H.	Fort Collins
Jenkins, Beulah M.	Bellvue
Jensen, Julius J.	Fowler
Johnson, Victor N.	Greeley

NAME	ADDRESS
Jones, Mildred E.	Fort Collins
Jones, Mary Agnes	Fort Collins
Jones, Gladys H	Fort Collins
Jones, Lura	Berthoud
Kelso, Francis	Fort Collins
Kempton, Helen	Loveland
Kimball, Margaret B	Idaho Springs
Kimmons, Helen B	Fort Collins
Klinefelter, Lee M	Fort Collins
Kronen, Margaret C	Milwaukee, Wis.
Lamb, Kate B	Alamosa
Larson, Faith	Fort Collins
Lasky, Hazel	Kremmling
Lawrence, Gwendolyn	Fort Collins
Leonard, Robert J	Fort Collins
Leonard, Ella M	Fort Collins
Leward, W. Glenn	Fort Collins
Lewis, Mabel I	Fort Collins
Littlefield, John R	Fort Collins
Logan, Grace	Cheyenne, Wyo.
Lory, Marian R	Fort Collins
Lory, Earl C	Fort Collins
Lyman, Daisy B	Fort Collins
Mauzey, Goldie	Fort Collins
Mauzey, Preston	Fort Collins
McCormick, Mrs. J. J	Fort Collins
Means, R. Pearl	Salida
Meyer, Bertha	Fort Collins
Miller, Mary J	Fort Collins
Mosier, Leota	Fort Collins
Mosier, Leona	Fort Collins
Mosier, Garnett	Fort Collins
Nelson, Arlene	Fort Collins
Nesbitt, Warda	Montrose
Newell, Dora L	Berthoud
Nichols, Evelyn	Fort Collins
Nutter, Kathleen	Delta
Painter, Gladys	Colorado Springs
Pettibone, Lona	Fort Collins
Randolph, Hazel B	Fort Collins
Ratekin, William E	Austin
Rist, Anna J	Fort Collins
Robinson, Russell	Fort Collins
Rogler, Charles	Cottonwood Falls, Kan.
Rohling, Lois,	Fort Collins
Rood, Gladys	Loveland
Root, Alice D	Fort Collins
Root, Edwin A	Fort Collins
Ross, W. Arthur	Fort Collins
Ross, Margaret G	Fort Collins
Rowand, Edward W	Fort Collins
Russell, Frampton	Loveland
Russell, Atta Belle	Loveland
Russell, Raymond N	Colorado Springs
Salyers, Eva M	Fort Collins
Schmidt, G. J	Fort Collins
Schofield, Le Vera	Bellvue

NAME	ADDRESS
Seibert, Lloyd	Fort Collins
Seward, Fred	Chico, N. M.
Seward, Marie	Chico, N. M.
Shantz, Frank	Fort Collins
Sharp, Gertrude L.	Denver
Shields, Harry C.	Fort Collins
Sinnard, Mrs. Elven	Fort Collins
Smith, Katharine M.	Fort Collins
Sorenson, Ellla L.	Clark's Grove, Minn.
Speck, Daniel	Fort Collins
Springer, Retta	Mitchell, Nebr.
Springer, Avice I.	Torrington Wyo.
Stover, Mary P.	Fort Collins
Sweitzer, Minnie E.	Delta
Tarr, Erma L.	Fort Collins
Wadleigh, Herbert	La Junta
Walek, Louise B.	Sterling
Walker, Albert	Belton, Tex.
Wendelken, Sarah	Fort Collins
Wherren, Hazel	Greeley
Wilkin, V. Esther	Laporte
Wilkin, A. Ruth	Laporte
Williams, Beth	Fort Collins
Willox, Catherine	Fort Collins
Wilson, Maryetta	Fort Collins
Wolf, Lyle H.	Fort Collins
Yeoman, Gertrude	Fort Collins
Zweifel, Henry S.	Denver

SUMMARY

College Students—			
Seniors	117		
Juniors	116		
Sophomores	151		
Freshmen	240		
Unclassified	47		
Total		**671**	
School of Agriculture and Domestic Science—			
Fourth Year	34		
Third Year	52		
Second Year	88		
First Year	208		
Total		**382**	
Music	182		
Farmers' and Housekeepers' Short Course	308		
Total		**490**	
			1,543
Twice Counted	71		
Total on Campus			**1,472**
Agricultural and Extension Service	78,311		
Twice Counted	308		
Total Extension			**78,003**
Grand Total			**79,475**

"The youth are in no way adding more lustre to their nation's flag than by each making the most of himself."—Proctor.

Colorado State Institutions of Higher Learning

*The University of Colorado*____________________*Boulder, Colorado*
Livingston Farrand, President

*The School of Mines*___________________________*Golden, Colorado*
H. C. Parmelee, President

*The State Teachers College*____________________*Greeley, Colorado*
J. G. Crabbe, President

*The State Normal School*_____________________*Gunnison, Colorado*
J. H. Kelley, President

*The State Agricultural College*______________*Fort Collins, Colorado*
Chas. A. Lory, President

Published Monthly by
The Colorado Agricultural College

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Colorado Agricultural College Bulletin

CATALOG

1918–1919

FORT COLLINS
COLORADO

SERIES XVIII №2

FEBRUARY, 1918

THE
JOHN CRERAR
LIBRARY

I, a wandering student, seeking knowledge, came knocking at the gates of the Colorado Agricultural College, “and it took me in,” helped me to become an efficient workman, “filled me with inspiration, and when I left its doors, the kindly people of the state stretched out welcoming hands and gave me a man's work to do.”

There are 242 Men from the College in Service

Thirty-ninth Annual Catalog

OF THE

Colorado Agricultural College

Agriculture *Mechanic Arts*
Home Economics *Veterinary Medicine*
General Science

1918-1919

FORT COLLINS, COLORADO

[Complete index on page 8]

1918 CALENDAR 1918

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Jan.	--	--	**1**	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	--	--
Feb.	--	--	--	--	--	1	2
	3	4	5	6	7	8	9
	10	11	**12**	13	14	15	16
	17	18	19	20	21	**22**	23
	24	25	26	27	28	--	--
Mar.	--	--	--	--	--	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	--	--	--	--	--	--
Apr.	--	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	--	--	--	--

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
May	--	--	--	1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	**30**	31	--
June	--	--	--	--	--	--	1
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	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	--	--	--	--	--	--
July	--	1	2	3	**4**	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31	--	--	--
Aug.	--	--	--	--	1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Sept.	1	**2**	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	--	--	--	--	--
Oct.	--	--	1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	--	--
Nov.	--	--	--	--	--	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	**28**	29	30
Dec.	1	2	3	4	5	6	7
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	22	23	24	**25**	26	27	28
	29	30	31	--	--	--	--

1919 CALENDAR 1919

	Sun.	Mon.	Tues	Wed.	Thur.	Fri.	Sat.
Jan.	--	--	--	**1**	2	3	4
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Feb.	--	--	--	--	--	--	1
	2	3	4	5	6	7	8
	9	10	11	**12**	13	14	15
	16	17	18	19	20	21	**22**
	23	24	25	26	27	28	--
Mar.	--	--	--	--	--	--	1
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	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31	--	--	--	--	--
Apr.	--	--	1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	--	--	--

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
May	--	--	--	--	1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
	18	19	20	21	22	23	24
	25	26	27	28	29	**30**	31
June	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	--	--	--	--	--
July	--	--	1	2	3	**4**	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	--	--
Aug.	--	--	--	--	--	1	2
	3	4	5	6	7	8	9
	10	11	12	13	14	15	16
	17	18	19	20	21	22	23
	24	25	26	27	28	29	30
	31	--	--	--	--	--	--

	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.
Sept.	--	**1**	2	3	4	5	6
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	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	--	--	--	--
Oct.	--	--	--	1	2	3	4
	5	6	7	8	9	10	11
	12	13	14	15	16	17	18
	19	20	21	22	23	24	25
	26	27	28	29	30	31	--
Nov.	--	--	--	--	--	--	1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	**27**	28	29
	30	--	--	--	--	--	--
Dec.	--	1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	**25**	26	27
	28	29	30	31	--	--	--

Colorado Agricultural College

CALENDAR

Entrance Examinations, Tuesday, September 3, 1918
Registration of Students, Tuesday, September 3, and Wednesday, September 4, 1918
First Semester begins, Thursday, September 5, 1918
Special Examinations for Removal of Conditions, October 26, 1918
Thanksgiving Recess, Thursday, November 28, and Friday, November 29, 1918
Christmas Vacation begins, Saturday, December 21, 1918
Christmas Vacation closes, Sunday, January 5, 1919.
Farmers' and Housekeepers' Week, January 13-18, 1919
Farmers' Congress, January 13-18, 1919
First Semester closes, Saturday, January 18, 1919
Second Semester begins, Monday, January 20, 1919
Washington's Birthday Exercises, Saturday, February 22, 1919
Special Examinations for Removal of Conditions, March 22, 1919
Spring Vacation, March 30, to April 6, 1919
Examination for Battalion Officers for the ensuing year, Wednesday, April 30, 1919
College Day, Friday, May 9, 1919
May Day Festival, Saturday, May 10, 1919
Memorial Day, Friday, May 30, 1919.
Baccalaureate Sermon, 8 p. m., Sunday, June 1, 1919
Commencement Exercises of Literary Societies, 8 p. m., Monday, June 2, 1919
Junior Class Day Exercises, 8 p. m., Tuesday, June 3, 1919
State Board of Agriculture meets Wednesday, June 4, 1919
Senior Class Exercises, Wednesday, June 4, 1919
Commencement Exercises, Thursday, June 5, 1919
Second Semester closes, Thursday, June 5, 1919

First Semester (1919-1920) begins September 4, 1919

If conditions seem to make such changes advisable, the Mid-winter and Easter vacations will be discontinued.

How to Use the Catalog

Plan of the Catalog.—The catalog is divided into four parts. The first part, pages 1 to 42, is general in character, taking up in the order named, Calendar, How to Use the Catalog, and Index, pages 6 to 13; State Board of Agriculture and Faculty, pages 13 to 20; Mission of the Agricultural College, pages 21 to 23; Campus, Buildings and Equipment, pages 23 to 31; Courses of Study, Entrance Requirements, and Accredited High Schools, pages 33 to 35; Requirements for Graduation, Special Courses, Advanced Standing of Students from other Colleges, pages 35 to 38; Registration, Tuition, Expenses, etc., pages 38 to 42.

The second part, pages 42 to 65, deals with the schedules of the four divisions of work; the **Division of Agriculture,** which includes courses in Agronomy, Animal Husbandry, Entomology, Forestry, and Horticulture, pages 42 to 52; the **Division of General Science,** page 52; the **Division of Home Economics,** pages 54 and 55; the **Division of Mechanic Arts,** which includes Civil and Irrigation Engineering, Electrical Engineering, and Mechanical Engineering, pages 56 to 62; the **Division of Veterinary Medicine,** pages 62, 63, and the Apprenticeship Course for Extension Workers, page 64. The first two years of all the courses in each division are alike, so they are given but once; but the junior and senior years are different in each course, as Agronomy, page 44, Horticulture, page 50.

The third part takes up, alphabetically, the nineteen departments of the college, and the work taught in each department. The subjects taught are arranged consecutively by numbers, commencing on page 65 with subjects in Agronomy, numbers 1 to 50, and ending with Veterinary Medicine, courses 850 to 896, page 129.

The fourth part takes up the Conservatory of Music, pages 134 to 138; the College Organizations, pages 140 to 144; College Publications, page 146; Agricultural Extension Service, pages 147 to 150; the Experiment Station, pages 150 and 151; Register of Students, pages 152 to 164.

How to Find a Given Topic.—Suppose you want to know what is offered in Agriculture, turn to the index and you will find Agriculture. Division of, is described on page 42. On 43, is given the course of study for first two years. You look over the list and want to know about the work in algebra. The number to the right states the number of credits toward graduation, given for the subject. The number to the left, 602, means that in the third part of the catalog, beginning page 65, Algebra is the 602nd subject. Again you want to know about Zoology. It is number 352, or the 352nd subject from page 65. In like manner any subject may be found, either by index reference or by number.

Directions for the New Student

I. If possible, send your credentials from high school before college opens. It will save you time and trouble.

II. Students who have less than fourteen high school credit units cannot enter the college. Graduates of the eighth grade, who wish secondary work in Agriculture, Mechanic Arts, or Home Economics, may enter the Colorado School of Agriculture, which is maintained in connection with the college.

III. Inquiries either to the President or the Dean, concerning board, room, expenses, etc., will be promptly answered. It is the aim of the college to give you just as complete information as possible.

IV. When you arrive on the campus, if you are not met by a member of the reception committee, report to the Dean's office in the Main building.

V. An additional fee of $2.00 is charged for late registration. (See Calendar.)

VI. Attendance in classes is required from the date of the first scheduled recitation. Work missed, if the absence is excused, must be made up. Unexcused absences count zero in grading.

VII. After the student's registration is completed, the schedule cannot be changed, except by permission of the Dean.

The North Gate

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The Stack of the Central Heating Plant

The State Board of Agriculture

THE STATE BOARD OF AGRICULTURE

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FUNCTIONS OF THE BOARD

The State Board of Agriculture created by the General Assembly in 1879, consists of eight members appointed by the governor of the state; the governor, and the president of the State Agricultural College, who are members, ex-officio. The governor, by and with consent of the senate, on or before the third Wednesday of January of each biennial session of the general assembly, appoints two members of the board to fill the vacancies that next occur, to serve for a term of eight years. Originally, the board had general control and supervision of the State Agricultural College and of the lands vested in the college by the general assembly of the state or by the national congress, and of all appropriations made by the state, and by the national government, for the support of the institution.

The duties of the board have, from time to time, been increased. Not only does it now act as the board of control of the State Agricultural College and the Agricultural Experiment Station and of the secondary school of agriculture, maintained at the college, the Colorado School of Agriculture, but the Eighteenth General Assembly made it the board of control of the secondary schools of agriculture at Fort Lewis, near Durango, and at Grand Junction, on properties, formerly Indian schools, that were turned over to the State of Colorado by Act of Congress, March 3, 1909. The Seventeenth General Assembly created the State Fair Board, consisting jointly of the State Board of Agriculture and the State Board of Horticulture; and the Eighteenth General Assembly gave to the State Board of Agriculture the powers of a State Board of Forestry; the Nineteenth General Assembly vested all the former powers of the State Board of Horticulture in the State Board of Agriculture; and the Twenty-first General Assembly in accepting the provisions of the National Vocational Education Act designated the State Board of Agriculture as the State Vocational Education Board.

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G. H. GLOVER, M.S., D.V.M.	Veterinarian
WALTER G. SACKETT, B.S.	Bacteriologist
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†On leave of absence, 1917-1918.

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H. E. VASEY, A.M	Assistant Botanist
J. T. COPELAND, B.S.A	Assistant Agronomist
T. E. LEIPER, B.S	Assistant Animal Husbandman
EVELYN G. HALLIDAY, S.B	Assistant in Home Economics
G. E. EGGINTON, B.S	Seed Analyst
I. C. HOFFMAN, B.S.A., M.S.A	Assistant Horticulturist
THOMAS L. DOYLE	Assistant Irrigation Investigations

EXTENSION SERVICE

OFFICERS

CHARLES A. LORY, M.S., L.L.D., D.Sc	President
H. T. FRENCH, M.S.	Director
L. M. TAYLOR	Secretary
ANNA T. BARNARD	Executive Clerk

STAFF

A. E. LOVETT, B.S	State Leader County Agents
W. E. VAPLON	State Leader of Boys' and Girls' Clubs
INGA M. K. ALLISON, E.B.	State Leader Urban Home Demonstration Agents
MIRIAM HAYNES, B.S.	State Leader of County Home Demonstration Agents
W. E. FOARD, B.S.A., A.M	Specialist in Farm Management
RALPH L. CROSMAN	Editor of Publications
R. W. CLARK, B.S	Specialist in Animal Husbandry
MAUDE E. SHERIDAN, Pd.M.	Assistant State Leader Boys' and Girls' Clubs
O. S. RAYNER, B.S.A	Assistant State Leader County Agents
W. G. JAMISON	Assistant State Leader of County Agricultural Agents
ERNEST H. BADER, B.S	Specialist in Agronomy
*W. H. KERR, M.S	Markets and Marketing
LOUBERTA SMITH, B.S.	Assistant in Boys' and Girls' Club Work, Ft. Collins

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*Deceased.

COUNTY AGRICULTURAL AGENTS

GEO. C. BURCKHALTER, B.S.........................Logan County, Sterling
PAUL N. FLINT, M.S.............................Kit Carson County, Stratton
W. H. LAUCK........................El Paso County, Colorado Springs
C. G. McCORD, B.A.............................Morgan County, Fort Morgan
S. V. SMITH, B.S.................................Pueblo County, Pueblo
H. H. SIMPSON, B.S.A.........................Boulder County, Longmont
E. D. SMITH......................La Plata and Montezuma Counties, Durango
GEO. R. SMITH, B.S...............................Adams County, Brighton
E. H. THOMAS, B.S.........................Rio Grande County, Monte Vista
CHAS. E. SMITH, B.S., M.A....................Las Animas County, Trinidad
RODNEY C. ALLRED, B.S...............Garfield County, Glenwood Springs
RALPH R. JEFFRIES, B.S.......................Fremont County, Canon City
MASON E. KNAPP, B.S...............................Weld County, Greeley
VICTOR TUCKER, B.S..........................Douglas County, Castle Rock
WALDO KIDDER, B.S..........................Huerfano County, Walsenburg
E. H. DIVELBISS, B.S...............................Delta County, Delta
FLOYD C. TRIPP, B.S.............................Jefferson County, Golden
WALTER A. GROOM, B.S........................Arapahoe County, Littleton
HARRY NEVIUS, B.S...........................Montrose County, Montrose
HAROLD B. KOBEY, B.S...............................Moffat County, Craig
EARL B. DARROW, B.S.............................Prowers County, Lamar
SCOTT WISNER, B.S., D.V.S..........................Lincoln County, Hugo
WALTER J. OTT, B.S.A.........................Sedgwick County, Julesburg
CLIFFORD C. TAYLOR, B.S....Asst. Co. Agt., Las Animas County, Trinidad

HOME DEMONSTRATION AGENTS

MARY COLLOPY, B.S.....................El Paso County, Colorado Springs
ERMA DOUGLASS, B.S.............................District Agent, Trinidad
FANNIE E. VIRGIL, B.S.........................District Agent, Canon City
MABEL VERNE CAMPBELL, B.S.......................Urban Agent, Denver
MRS. ROSE H. COLE.................................Urban Agent, Pueblo

DISTRICT AGENTS

LISLE J. WORMINGTON, B.S.A...................................Fort Collins
C. D. HYATT, B.S.A..Fort Collins
H. K. PORTER, M.D..Delta

CONSERVATORY OF MUSIC

ALEXANDER EMSLIE, Director (Boston Conservatory of Music, Charles R. Adams, Boston) Voice Culture, Opera, Oratorio and Chorus Director
HOWARD S. REYNOLDS (New England Conservatory of Music), Instructor in Violin, Harmony, Counterpoint, Composition, and Orchestra Director
MRS. ALEXANDER EMSLIE (Simpson Conservatory of Music)...Instructor in Piano and History of Music
CLIFFORD S. DUNHAM (Iowa State Teachers College)....................Instructor in Voice, Public School Music, and Chorus Director
MRS. WILLIAM ELDRIDGE, (C. A. C. Conservatory of Music).. Instructor in Piano
MISS RUTH L. DEMARAY, (Park College, C. A. C. Conservatory of Music)..Instructor in Piano
ALFRED WESTFALL, (Park College)..................Instructor in Oratory
MISS ELLA LEONARD, (C. A. C. Conservatory of Music).. Orchestra Accompanist
BENNET W. FOLTZ.....................................Instructor in Cornet
W. E. FELDMAN.......................................Leader of Military Band
MISS KATIE McKILLOP..Registrar

FACULTY COMMITTEES

Executive

S. Arthur Johnson
B. F. Coen
Alvin Kezer
Igna M. K. Allison
L. D. Crain
S. L. Macdonald
George H. Glover
T. M. Netherton
Virginia H. Corbett
Margaret Durward

Social

Virginia H. Corbett
Charlotte E. Carpenter
W. W. Robbins
I. E. Newsom
T. M. Netherton

Catalog

B. F. Coen
Harriet Shipley
J. D. Marshall
Ralph L. Crosman
H. E. Kingman
Sarah I. Kettle

Physical Training

S. L. Macdonald
James D. Marshall
W. J. Morrill
H. W. Hughes
Edwina Layman

Advanced Degrees

Wm. P. Headden
Inga M. K. Allison
L. D. Crain
Alvin Kezer
I. E. Newsom

Efficiency in Instruction

S. L. Macdonald
S. Arthur Johnson
W. W. Robbins
Margaret Durward
G. E. Morton

Operating Efficiency

Alvin Kezer
Inga M. K. Allison
George H. Glover
L. D. Crain

Class Proctors

Freshman
B. F. Coen

Sophomore
Margaret E. Durward

Junior
Fred G. Person

Senior
George E. Morton

"Old Main"

The Mission of the Agricultural College

The mission of the Agricultural College as defined by the congressional act which called it into being is "to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This class of educational institutions had its origin in the provisions of an act of congress, approved July 2, 1862, and popularly known as the "First Morrill Bill"; and for its establishment and maintenance in each state which availed itself of the provisions of the law, a donation of 30,000 acres of land for each senator and representative in Congress was made, Colorado receiving 90,000 acres. The sales of this land, and the revenue therefrom, constitute a permanent endowment fund.

In 1890, Senator Morrill, of Vermont, secured the passage of a second act, known as the "Second Morrill Bill," appropriating a maximum of $25,000 (the Morrill fund) annually for the support and maintenance of these colleges, which act was amended so that the maximum sum would be $50,000 a year. This maximum was reached in 1911. This act also made certain provisions as to the line of studies for which this money might be expended, enacting that it should be used "only for instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic sciences." This act has been construed by the National Commissioner of Education, in a circular approved by the Secretary of the Interior, and prescribes the studies which these colleges may teach in order to avail themselves of the benefits of the law.

By act approved January 27, 1879, and April 6, 1891, the general assembly of Colorado gave "full and complete acceptance, ratification and assent" to "all of the provisions, terms, grants, and conditions and purposes" of these congressional acts, thus creating a perpetual contract between the state of Colorado and the government of the United States under the terms of which, in consideration of the grant of 90,000 acres of land for the creation of an endowment fund, and the payment of the Morrill fund annually, the state bound itself to maintain an institution at which instruction should be given in military tactics, agriculture, mechanical arts, the English language, economics, and the various branches of mathematical, physical, and natural science.

The requirements of this contract, both in letter and spirit, are being faithfully observed, and the duties it imposes are being fully performed by the State Agricultural College.

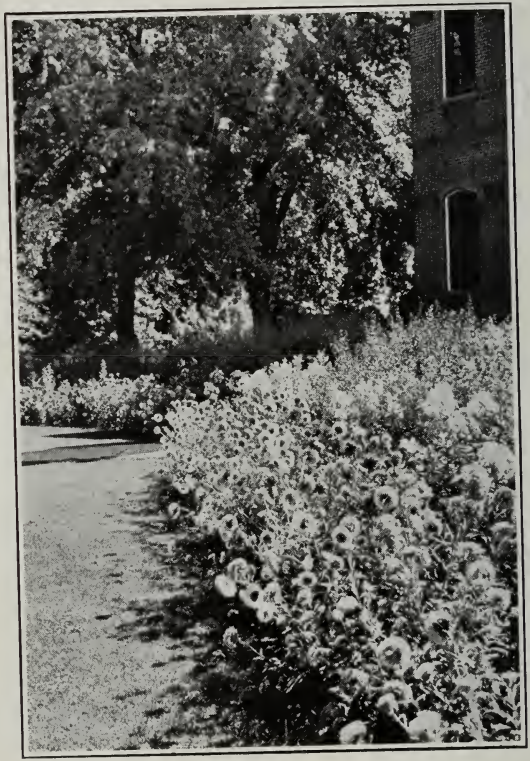
To enable the college to do so, the state supplements the funds received from the national government by a levy of .13589 of a mill on the assessed valuation of $303,674,103. The Twenty-first General Assembly made a levy of .09 of a mill per year for ten years for buildings.

Experiment Station.—The colleges established under the Morrill bill were soon confronted by the necessity of doing experimental work and original research in agriculture, to supplement and extend the agricultural knowledge of the times. This need was recognized by congress and was met by the establishment of the experiment stations in an act approved March 2, 1887, generally known as the Hatch Act. This act appropriated

$15,000 annually—the Hatch fund—(no part of which could be expended for instruction) for research, investigation, and experiment along the lines of agriculture, horticulture, and animal husbandry, and in the arid states the water problems which arise out of their systems of irrigation. The results of these investigations and of the practical experiments made are published in the station bulletins issued from time to time as the investigations are completed. The bulletins that have been issued from this station cover a wide range of industrial topics, and are among the valuable contributions that have been made to the science of agriculture.

In 1906, Congress supplemented this "Hatch fund" of $15,000 a year by another, which has become known as the "Adams fund." In accordance with the provisions of the law, the Experiment Station received $5,000 in 1906, and was to receive a sum increased by $2,000 each year until the total reached $15,000 annually. This money is exclusively for the work of original research, and the restrictions placed about its use are both narrow and severe.

The General Assembly, from time to time, has provided for special investigations, by direct appropriations. The Twentieth General Assem-



The Flower Beds Near "Old Main"

bly provided a levy of .0225 of a mill for the Experiment Station. This was increased by the Twenty-first General Assembly to .0425 of a mill.

Extension Service.—An important function of the Agricultural College is the instruction of people scattered all over the state, who are unable to come to the college. The demand for this work during the last few years has been far greater than the ability of the college to meet, on account of lack of funds. This work is now organized under a co-operative arrangement with the United States Department of Agriculture. Under this agreement, the college receives certain federal funds for the promotion of county agent work and boys' and girls' club work. Also under the provisions of the Smith-Lever Act of Congress, the college receives $10,000 annually for extension service. By the provision of this act, this appropriation, in Colorado, will be increased by the following amounts annually, the state meeting the increase dollar for dollar thru a continuing first class appropriation: 1916-17, $8,789; 1917-18, $12,784; 1918-19, $16,779; 1919-20, $20,774; 1920-21, $24,769; 1921-22, $28,764; 1922-23, $32,759. The Twenty-first General Assembly provided continuing appropriation of $10,000 annually, for general extension service to supplement work under the Smith-Lever Act.

The beneficial effects of this extension work are already felt and are generally acknowledged in Colorado. To the practical information imparted through the county agricultural agents, the timely hints given, the valuable suggestions made by the workers of the Agricultural College at institutes and short courses, many individuals and some whole communities owe improved methods and more prosperous conditions.

Functions.—These, then, are the three functions of the State Agricultural College: Education, experimental work and original research, and the extension of the knowledge thus gained to the homes of the people.

CAMPUS

Standing upon the campus of the Colorado Agricultural College, the visitor is readily impressed with the spirit and purpose of the institution as he gazes with delight upon the scenes by which he is surrounded. Near at hand are the main administration building, in whose various additions may be read the growth of the college and its need for more room; the chemical, the electrical, the home economics, and the horticultural buildings, the library, and the mechanical engineering building, whence comes the buzz of machinery, enlivened by a real anvil chorus.

To the south, across the Green and Gold, the women's athletic field, rises Agricultural Hall, to the west of which is the soils building and the residence of the president of the college; and in the southwest of the campus, towering above the trees, the barns with their pure-bred cattle, sheep, and swine. Nearby are the poultry yards and the cottage of the caretaker. Directly to the west, rise the white walls of the irrigation building, all the more perfectly outlined by the dark blue foothills which seem to rise directly behind. Just beyond stretches the highly cultivated college farm of 320 acres, while along the immediate base of the foothills is the great pasture field of 1,350 acres.

Half a mile to the east of the campus, are the barns and paddocks of the Horse Breeding Station, where the United States Department of Agriculture and the Experiment Station are co-operating in the development of a general purpose farm horse.

Such is the campus and plant of the college, whose environs constitute one of the most beautiful and attractive agricultural landscape views to be found in the West—the highly cultivated prosperous valley of the Cache la Poudre, with its farms and gardens, its orchards, canals, and reservoirs, a region where agriculture by irrigation has reached its highest and most progressive development. No more commanding or appropriate location could have been chosen for an agricultural college.

BUILDINGS

Main College Building.—The largest building on the grounds. It contains offices of the President, Principal of the School of Agriculture, Secretary, Dean, Registrar, the Extension Service, Rural School Visitor, Physical Director, Commandant, and Young Men's Christian Association; offices and classrooms of the Departments of English and History, Mathematics, and Modern Languages; an auditorium with opera chairs seating 900 persons, and an armory, 40x72 feet, a gymnasium, and a laboratory used by the Department of Physics.

Chemical Building.—This building contains the office and private laboratory of the head professor; the offices of the associate professor, instructors, and assistants; three student laboratories with a total of 352 lockers, allowing 116 students to work at one time; a lecture room for chemistry, with which is connected a chemical museum; a lecture room for geology, which contains the geological museum; and the chemical laboratories of the Experiment Station.

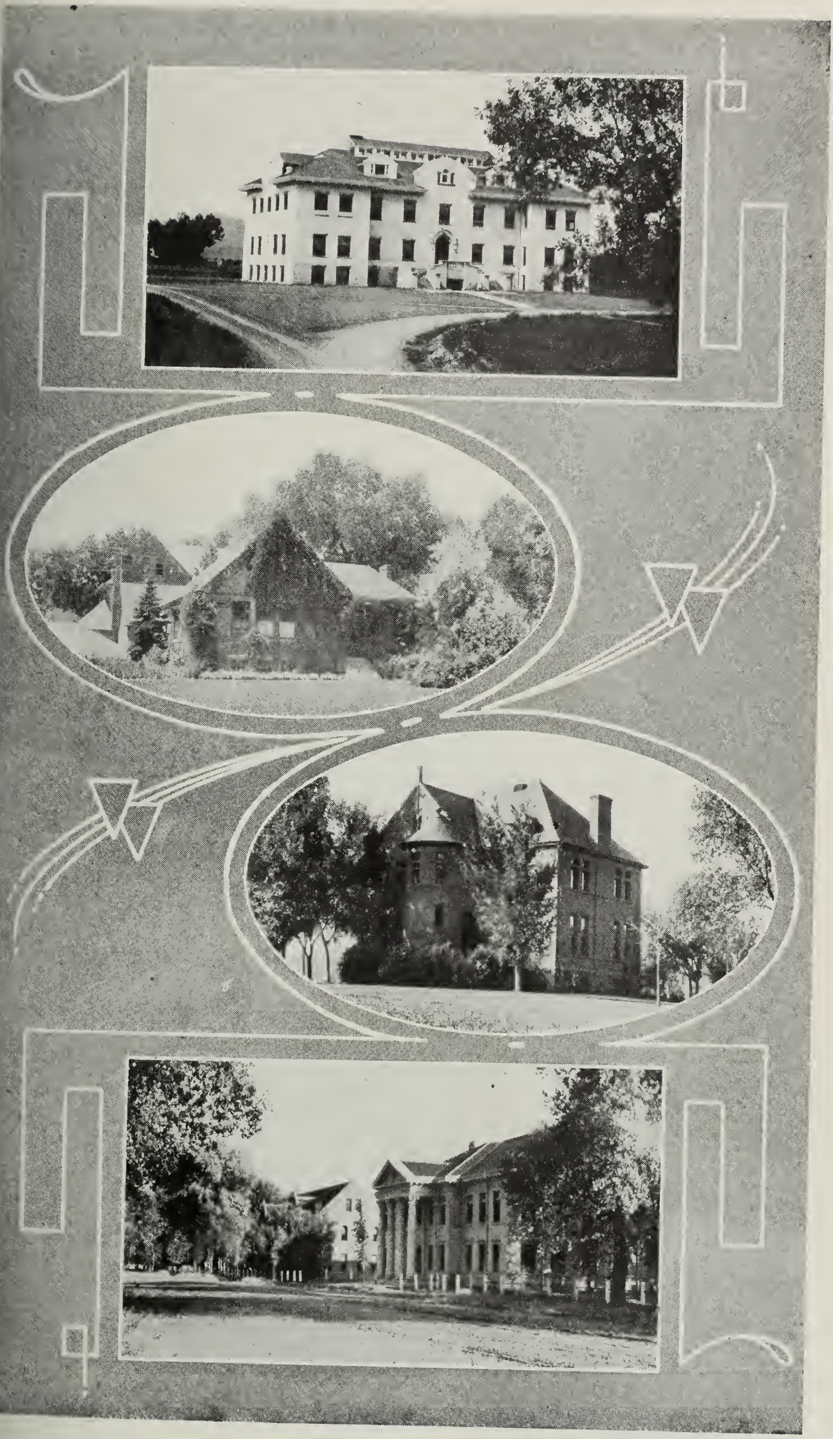
Electrical Engineering Building.—A very serviceable building whose three floors provide offices, classrooms, and work rooms for instruction in physics and in electrical engineering.

Conservatory of Music.—This is a small but very attractive building with two floors, containing classsrooms, offices, and a reception room.

The Hall of Household Arts.—This building, the gift of Senator Simon Guggenheim, is entirely occupied by the Department of Home Economics. The first floor is given over to offices, the food laboratories, dining room, locker room, and laundry. On the second floor are the offices of the Dean of Women and the Extension Representative in Home Economics, restroom, headquarters of the Young Women's Christian Association, assembly room, sewing laboratories, and lecture rooms. The spacing and equipment provide adequately for individual work.

Horticultural Hall.—A well constructed and artistically designed building, with offices, classrooms, and laboratories for departments of horticulture and botany; and a well equipped laboratory for bacteriological research, that is being conducted under the Adams act.

Mechanical Engineering Building.—One of the largest buildings on the grounds. It contains offices and classrooms for the various classes needed in a thorough course in mechanical engineering, a machine shop, well supplied with tools and apparatus needed for instruction in large



Civil and Irrigation Engineering
onservatory of Music
Guggenheim Hall of Household Arts
Agricultural Hall

classes in all lines of machine work; a modern blacksmith shop, with 41 forges and other equipment; a foundry, with full equipment for thorough instruction work with iron, brass, and bronze; a bench and wood-working room, with 47 benches and full sets of tools, wood-working machinery, including power planers and lathes; and a department library of 1,000 volumes.

Mechanical Engineering Laboratory.—This laboratory is furnished with apparatus and machines to give advanced students an opportunity to make investigations of the materials used in constructing buildings and machinery, and to make tests of boilers, engines, pumps, motors, and other mechanical appliances. A special feature is an extensive equipment for investigations along the lines of steam engineering and compressed air.

Civil and Irrigation Building.—This building is one of the best on the campus, new and modern in every way. In the basement are found the irrigation and hydraulic laboratories with all the equipment for experimenting with flowing water, with pumps, meters, etc. The cement laboratory and photographic dark rooms are also on this floor. The floor above contains the experiment station offices, museum, and instrument room. On the second floor are the classrooms, departmental library, and offices of the professors of the department. The third floor is devoted to the draughting work. With its ceiling light, the blueprint apparatus, tables and filing cases, it makes an up-to-date room for this kind of work. The building cost $75,000, and is said to be one of the best equipped buildings in the United States for teaching irrigation.

Agricultural Hall.—An attractive building, with three working floors, containing offices, classrooms and libraries for the departments of agronomy and animal husbandry, and for the poultryman, and a large room well equipped for instruction in farm dairying.

Judging Pavilion.—Two classrooms, with side and overhead lighting, for instruction in judging horses, cattle, hogs, sheep, and poultry. This building was planned after a study of all the better buildings of its class in the United States, and is exceptionally well adapted for the work.

Greenhouses.—These are five in number, and are modern steel and concrete construction. They are connected with the Horticultural Hall, and convenient for instruction. Three of the greenhouses are for the use of classes in floriculture, plant propagation, and forcing vegetables, and one is used in seed testing. The plant is strictly modern in every detail, and embraces the latest and best features in greenhouse construction.

Veterinary Buildings.—The main offices of the Division of Veterinary Medicine are located in the Civil and Irrigation Engineering building as are also the pathology museum, and two classrooms. A group of five buildings facing on Laurel street furnishes accommodations for hospital, pathology laboratory, pharmacy laboratory, dissecting room, small animal ward, classrooms, offices, etc.

Farm Buildings.—The college has large and well-planned barns for breeding horses, work horses, and dairy cattle; sheds for fattening cattle, a sheep barn, a large piggery, and several styles of individual hog houses; a plant for fattening 100 hogs at a time, a large farm machinery shed, farm blacksmith shop, a number of model poultry houses, and an incubator room.

Farm Mechanics.—This building is devoted to classrooms and laboratories for instruction in operating, repairing, setting up, adjusting, and testing farm machinery, and steam traction and gasoline engines. The equipment is valued at $15,000.

Library.—For a description of this building, see page 105.

Zoology Building.—A two-story structure of white stone, providing classrooms, laboratories, and offices for instruction and investigation in entomology and other branches of biology; a museum, and an insectary.

Hydraulic Laboratory.—A special laboratory designed for advanced studies in water measurement, flow through conduits, etc., and used in co-operation with the "Irrigation Investigation" Office of Experiment Stations U. S. Department of Agriculture.

Soils Building.—This building is a two-story structure of brick. The second floor provides two large classrooms which are well lighted and ventilated. On the ground floor is the Soils Laboratory, which is very modern in structure and arrangements, and is ideally suited to the study of the physical properties of soils and their relation to crop production. The working capacity of the laboratory is fifty-six students at the same period.

Central Heating Plant.—The new building used for this purpose is of concrete, brick and steel construction, and is practically fireproof, there being no wood used except in the window and door frames. Upon the ground floor are the boilers. The boilers are the very latest design of Sterling Water Tube boilers, each of 234 horsepower and equipped with automatic stoker. In the basement are the pumps and receivers which take the return water from the steam heating sytem and pump it back into the boilers. From the basement two tunnels lead off to all the different buildings on the campus. The boilers, coal handling machinery, pumps and other equipment were designed so that tests of each part or of the plant as a whole, may be easily made by the students in mechanical and electrical engineering.

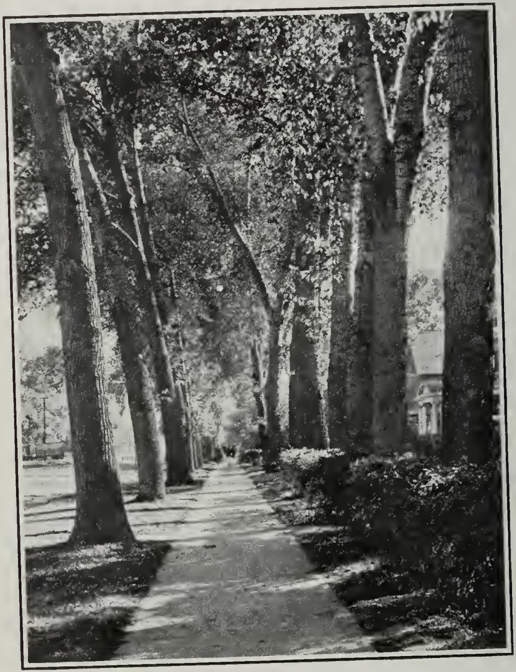
EQUIPMENT

The equipment of the college is such as is needed to give thorough instruction in agronomy; animal husbandry; horticulture; entomology; forestry; civil, irrigation, electrical and mechanical engineering; home economics; general science; and veterinary medicine.

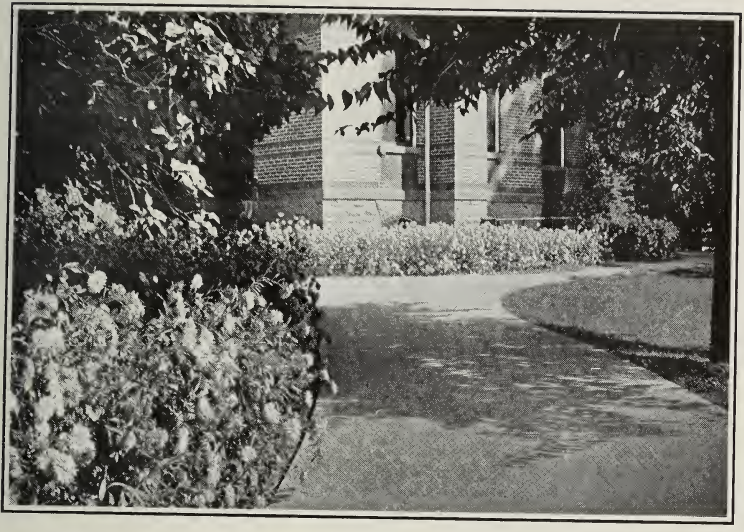
The value of the apparatus, instruments, machines, books, and live stock exceeds $200,000.

Geological Museum.—The material is unusually complete, representing all the important classes and varieties of rocks, a good working collection of the important rock-forming minerals, a collection of sections showing the microscopic structure and optical properties of various classes of rocks, a large and representative collection of ores, a beautiful collection of ornamental mineral materials, and a collection of fossils and casts illustrating the life of every geological period.

Biological Museum.—Contains a collection of over 75,000 specimens of insects, a large collection of vertebrate and invertebrate animals, hundreds of charts and models, an extensive series of prepared microscopic slides, wax models showing the development of the frog, chick, and man, human skeletons, a manikin of the human body, and enlarged models of special parts of the body.



College Avenue



A Typical Campus Scene in Summertime

Pathology Museum.—The Pathology museum contains over 500 specimens of diseased organs and tissues of domestic animals, and approximately 200 specimens of parasites that infest the domestic animals. These specimens are of inestimable value in teaching parasitology, physiology, pathology, and other branches pertaining especially to veterinary medicine.

A Campus Drive

Farm Equipment.—The herds of pure-bred animals, and the farm machinery, implements, tools, and dairy apparatus used for instructional purposes in agriculture are worth over $75,000.

Farm.—The college has 472 acres of land under irrigation, and 1,350 acres in pasture. The college farm affords an unusual opportunity for the study of practical farm and garden irrigation, and modern farm management.

The U. S. Department of Agriculture and the College Experiment Station are jointly conducting an experiment in developing a superior type of general purpose farm horse. This experiment is attracting world-wide attention. The work is being conducted on the college farm. Students have the opportunity and are required to study its progress. There are 92 choice horses and colts now being used in this investigation, with model barns, sheds, paddocks, stable, and harness equipment.

Chemical Museum.—Contains a collection of over 500 specimens of the most important and typical inorganic and organic compounds, as well as elements; a number of exhibits of chemical products, many of which were donated by manufacturing concerns; charts and models of various kinds; and a set of minerals showing the occurrence of the elements. All of this material is used in connection with lectures and demonstrations in chemistry, and is added to, each year.

Herbarium.—The herbarium contains a collection of over 14,000 mounted specimens of seed plants and ferns. About 6,000 of these are Colorado plants; the remainder are from different parts of the United States and foreign countries. In addition to the above, there is a collection of fungi, numbering 6,600 specimens. A large number of these are of economic importance. The herbarium is indispensable in teaching the various courses in botany, and as an aid in identifying plants that are sent in from over the state.

Experiment Station.—The Agricultural Experiment Station of the College has a large and carefully selected equipment for investigation and research in soils, crops, stock feeding, plant and animal breeding; soil, plant and animal diseases; fruit and vegetable growing; insects, and irrigation problems; and is yearly spending $64,000 and upwards in practical investigations under Colorado conditions along these lines. **A study of the equipment and methods used in this work and of the results obtained is of inestimable value to advanced and graduate students.**

Shops and Laboratories.—The equipment used in class and laboratory work in mechanic arts, which includes civil, irrigation, electrical, and mechanical engineering, is worth $55,000.

FORT COLLINS

Nor should mention be omitted of Fort Collins, in the suburbs of which the college is situated; a growing, thriving city of about 12,000 people, which reflects in its commercial, social, educational and religious life, the best elements of modern American civilization; a city in which no vicious resorts are tolerated; which takes a just pride in the college and its work; which extends a cordial welcome to students and throws about them the most wholesome influences, and which so conducts its municipal affairs as to make it an ideal college town.

Such is the Colorado Agricultural College; such its equipment and appointments; such its location and environment, which combine to reflect the spirit and purpose which pervade its halls and give zest and inspiration to the instruction therein given. Sharing in its advantages and the opportunities that it assures, is the free gift that is now proffered the boys and girls of Colorado. To those who avail themselves of its privileges, may be guaranteed a thorough training in any of the industrial arts which come within its scope, a broad and generous culture, a higher plane of citizenship, a clearer vision of life's ideals, whose influences conduce to more perfect types of manhood and womanhood, to a more prosperous commonwealth, a greater republic, a larger measure of individual independence, and happier homes.

The Churches of Fort Collins Where Students Find Religious Inspiration

Courses of Study

College Courses.—Courses in Agriculture, Mechanic Arts, Veterinary Medicine, Home Economics, and General Science are offered for high school graduates, or for those having equivalent preparation. In agriculture, the opportunity is given for specializing in agronomy, animal husbandry, entomology, forestry or horticulture. In home economics, the opportunity is given for specializing in domestic art or domestic science. In mechanic arts, the opportunity is given for specializing in civil and irrigation engineering, electrical engineering, or in mechanical engineering. In general science, opportunity is given for specializing in any of the subjects taught in the institution.

Secondary Courses.—Three-year courses of six months each, in agriculture, mechanic arts, and domestic science, are offered by the **Colorado School of Agriculture,** conducted by the college for grammar school (eighth grade) graduates at least fifteen years of age, or for those having equivalent preparation. **Students who have completed the work offered in the School of Agriculture may enter the college after taking the intermediate year, which is offered for just that purpose in connection with the School of Agriculture.** Full description of these courses is given in the special **School of Agriculture Catalog,** which will be mailed upon request.

Similar courses are offered by the Fort Lewis School of Agriculture, a branch of the Agricultural College at Hesperus, Colorado. This school is in session from April to October, and provides practical farm and shop work on a half-time school and half-time work schedule, which enables the students to pay the greater part of their expenses. Courses for rural teachers and twelve-week summer courses in agriculture and pedagogy are also offered. Full description of the work of the school is given in the Fort Lewis School catalog, which will be mailed on request.

Apprentice Course for Extension Workers.—With the passing of the Smith-Lever Act, and with the general awakening of the country to the needs of the rural population, has come a demand for men and women, graduates of agricultural colleges, with additional training in special lines that will fit them for positions in the extension service of the different states and the nation. For the next few years, while the funds available under the Smith-Lever Act are constantly increasing, there will be a steadily increasing demand for workers. To meet this demand, an apprenticeship course for extension workers is offered. For further details see index under Apprenticeship Course.

One-Week Courses.—In January of each year, the college offers one-week courses for farmers and housekeepers, open to all who wish to attend. These courses are under the direction of the Extension Service and consist of special lectures and demonstrations with evening lectures on topics of general interest. Farmers' and Housekeepers' week for next year opens January 13, 1919. Special circulars will be mailed on request.

Entrance Requirements for College Courses

Students are admitted to the college either upon certificates from an accredited high school or upon examination.

Certificates from schools not accredited will be considered as the merits of each case may warrant. Students presenting a less number of credits than are required for college entrance may enroll in the School of Agriculture.

Fifteen units are required for admission. Students may be admitted on condition, with fourteen units, the condition to be made up during the first year. A unit course of study is defined as a course covering a school year of not less than thirty-five weeks, with four or five (preferably five) periods of at least forty or forty-five minutes each, a week. The fifteen units for entrance are divided as follows:

Mathematics	**2**
English	**3**
History	**2**
Science	**2**
Electives	**6**

Electives may be chosen from the following: Mathematics, 2; Ancient Language, 4; French, 3; German, 3; Spanish, 2; History, 2; English, 2; Science, 2; Drawing, 1; Psychology, 1; Political Economy, 1; Shop Work, 2; Agriculture, 2; Domestic Science, 2. (Other electives offered will be considered by the faculty.)

The following High Schools are Accredited:

- Akron (Washington County)
- Alamosa
- Arvada
- Aspen
- Berthoud
- Boulder
- Breckenridge
- Brighton
- Brush (Union)
- Buena Vista
- Canon City:
  - Canon City
  - South Canon
- Carbondale
- Cheyenne, Wyoming
- Cheyenne Wells (Cheyenne County)
- Colorado City
- Colorado Springs
- Cripple Creek
- DeBeque
- Del Norte
- Delta
- Denver:
  - East Side
  - Manual Training
  - North Side
  - South Side
  - West Side
  - Wolcott School
- Durango
- Eaton
- Florence
- Fort Collins
- Fort Morgan
- Fowler
- Fruita (Union)
- Georgetown
- Glenwood Springs (Garfield County)
- Golden

Grand Junction:
    Appleton Consolidated
    Fruitvale
    Grand Junction
Greeley
Gunnison (Gunnison County with branch at Marble)
Gypsum (Eagle County)
Holly (Union)
Holyoke (Phillips County)
Hotchkiss
Idaho Springs
Julesburg (Sedgwick County)
Lafayette
La Junta
Lamar (Union)
Laporte (Cache la Poudre Consolidated)
Las Animas (Bent County)
Leadville
Littleton
Longmont
Loveland
Mancos
Manitou
Meeker (Rio Blanco County)
Monte Vista
Montrose (Montrose County, with branches at Nucla and Olathe)
Ouray (Ouray County, with branches at Colona and Ridgway)
Palisades:
    Mt. Lincoln
    Palisades
Paonia
Pueblo:
    Centennial (District No. 1)
    Central (District No. 20)
Rifle (Union)
Rocky Ford
Saguache (Saguache County)
Salida
Silverton
Sterling (Logan County, with branch at Fleming)
Telluride
Trinidad
Victor
Walsenburg (Huerfano County)
Wheatridge
Windsor
Wray (Yuma County)

General Information

Requirements for Graduation.—One hundred and sixty credits are required for graduation in all courses, of which eight must be in military art for men, and six in physical education for women. In agriculture, mechanic arts, home economics, and general science, twenty to thirty credits are elective.

A Credit Defined.—One credit is given for one hour of lecture, or recitation work a week, or two hours in the laboratory, or three hours drill or gymnasium, carried satisfactorily throughout a semester. In a few instances, three hours laboratory are required for one credit.

Grades.—The passing grade is 70 per cent. All students who fail to make a standing of 60 per cent will be considered failed, and will be required to take such subjects over again in class. Those making a standing of more than 60 per cent and less than 70 per cent will be considered conditioned and will be allowed one special examination before the subject is again taught, by which they may try for a passing grade of 70. In cases of studies extending over more than one semester, the student, if he has an average of 60 per cent, may be allowed to continue with his

Federal Building, Fort Collins

class, but must finally make a grade of 70 per cent in one special examination in each semester. If he falls below 60 per cent in average at the end of a semester, he will be dropped from the class and be required to take a lower subject.

Any student who shall have a semester standing of 90 per cent may be exempted from examination, and in that case his class standing shall be his semester average.

In order to encourage students to do the best work of which they are capable with a limited number of credit hours, rather than undertake to carry a larger number of credit hours with a lower grade, the faculty considers not only the number of hours the student takes, but the grade received in the different subjects.

In order to do entire justice to the needs of the students, instruction is adapted to the students of average ability. Those who will devote their best efforts and do superior work will not only get more, but they will receive recognition for the same in additional credit.

For each credit hour of which the grade	70 to 75 is given, 10 per cent is deducted.
	76 to 85 is given, no change in credits is made.
	86 to 90 is given, 5 per cent is added.
	91 to 95 is given, 10 per cent is added.
	96 to 100 is given, 15 per cent is added.

Entrance Conditions.—All entrance conditions must be removed the freshman year.

Degrees.—The degree of Bachelor of Science is conferred upon the graduates of all courses except those in Veterinary Medicine. Graduates in this course receive the degree of Doctor of Veterinary Medicine.

Special Work For Those Who Desire to Train Themselves to Become Teachers.—In order to meet the Nelson amendment to the Morrill Act which provides that a part of the additional appropriation be used for providing "courses for the special preparation of instructors for teaching the elements of agriculture and mechanic arts," and to meet the growing demand for teachers of agriculture, mechanic arts, household arts, and of the sciences closely related thereto, the technical courses of the college are supplemented by work in psychology, history of education, theory and practice of teaching; and provision is made for practice teaching in the School of Agriculture, under competent supervision. This work satisfies the State Certification Law, which requires "professional training equivalent to at least one-sixth of a standard four years' college course in at least three of the following groups of subjects, one of which shall be Practice Teaching, to-wit:

1. General Educational Psychology
2. History of Education
3. Science and Principles of Education
4. Practice Teaching and Special Methods
5. Organization and Management of Schools
6. Philosophy, Sociology, and Anthropology

State diplomas granted under the provisions of this act entitle the holders thereof to teach in the public schools of any county, city, town, or district in the state without the necessity of any other examinations for a period of five years, unless sooner revoked by the State Board of Education." The diploma may be renewed at the end of five years, and later may be made a life certificate.

A Teachers' Bureau is maintained. This Bureau performs three functions. It collects and tabulates complete detailed information about each applicant for a position. It helps to place teachers with full knowl-

Juniors and Seniors Terminate Class Rivalry in Annual Peace Pipe Ceremony

edge of their qualifications and fitness. It keeps in close touch with them, and helps them to succeed, after they are placed.

Address all communications to Teachers' Bureau, Colorado Agricultural College.

There is an opportunity for teachers of experience to come to the college and fit themselves for more advanced positions, or for specializing in Agriculture, Mechanic Arts, and Household Arts, and earn part of their expenses by teaching one or more classes in the School of Agriculture. Special provision is made for students who have taken their professional training in other institutions of higher learning, especially the State Teachers' College of Colorado, or the College of Education at the University of Colorado, and who desire the technical training necessary to fit themselves as teachers of Agriculture, Mechanic Arts, or Household Arts.

The State Board for Vocational Education has assigned to the State Agricultural College the training of teachers under the provisions of the National Vocational Educational Act.

Unclassified Students and Special Courses.—Unless there are strong and excellent reasons for it, a student will not be allowed to take a special course of study; and, in case it is allowed, the student must show that he is well qualified to pursue the studies selected, by passing such examinations as the faculty may assign. No student will be allowed to change his course during the progress of the semester, nor will he be allowed to drop a study unless by permission of the Executive Committee.

All applications for special courses of study must be made to the chairman of the Executive Committee by mail or otherwise, at least two days before the opening of the semester. Except under unusual conditions, it will be useless for any person to apply for a special course of study involving less work than is required of the students in the regular course.

Unclassified students who wish to become candidates for a degree, must fulfill all requirements for admission to the college, and must complete the required work in the regular manner.

For men and women of maturity and experience who wish training in certain lines, provision is made for attending such classes.

Special War Courses.—Special coures in Nursing, First Aid, Dietetics, Telegraphy, Tractor Operation, French, and Gardening, for service in connection with the war or for meeting industrial needs, are offered. Other courses will be offered as the need for such develops. Those interested in such courses should write for the descriptive circular.

Senior Standing.—At the beginning of the senior year, each member of the senior class, before he will be considered a candidate for graduation, must show the faculty in what way it will be possible for him to make the required credits.

Advanced Standing.—Students entering the Agricultural College from other institutions of higher learning, that required fifteen units for admission, will be given standing according to the following rules:

1. If such applicant has pursued a regular course of study at the former institution and completed the work taken, he will be given standing with the same class at this institution, and be required to complete

work here at the rate of twenty credits for each semester's work yet to be done, but no student will be recommended for a degree who does not present credits for all the required work leading to such degree.

2. Students, coming from other institutions, who have not pursued a regular course of study at such institution or who have not satisfactorily completed the work so far taken, will be given credit, hour for hour for the work, completed and presented, in so far as that work applies to the course of study desired.

Registration.—Tuesday, September 3, and Wednesday, September 4, 1918, are devoted to examination and registration. New students will be met at the trains by committees of young men and women from the Young Men's and Young Women's Christian Associations, who will take them to the college at once for registration, and will assist them to find good homes and open for them the doors of college life. **Students who fail to register on the dates set for registration will be charged an additional registration fee of $2.00.**

Classes in Elective Subjects.—No class in an elective subject will be formed for less than four students.

General Assembly.—All students assemble twice a week, Mondays and Thursdays, at 9:45, in the auditorium of the main building, for chapel exercises. At the beginning of the year, seats are assigned. Attendance is required.

Tuition and Fees.—Tuition in all the regular classes of the college is free, but fees are charged in the Conservatory of Music, and of each veterinary student whose home is not in Colorado, a non-resident fee of $25.00 is charged.

Entrance Fee.—An entrance fee of $5.00 is required of every student, $2.00 of which is the library fee, and $3.00 of which will be paid by the Registrar to the Activity Manager of the Associated Students upon the written statement of the Secretary of the Associated Students that the student has signed the constitution.

Laboratory fees are charged in certain courses to help defray the cost of materials used. These fees are stated in connection with the description of the different courses.

By unanimous vote, the Associated Students, in May, 1917, passed a resolution that $7.00 be collected from each student, in addition to the regular registration fee. The proceeds of this fee are pro-rated to the several student activities and all students receive season tickets which admit them to all organized student events.

Graduation Fee.—By a resolution of the State Board of Agriculture, passed in June, 1912, each student who has been recommended to the Board to receive a degree, must, before the degree is conferred, pay a graduation fee of $5.00, or if the degree is conferred in absentia, $10.00.

Estimate of Expenses.—A conservative estimate of the necessary expenses of a student for a year in the institution is as follows:

Board	$160.00
Room	60.00
Books and Fees	40.00
Incidentals, including uniform for men and gymnasium suit for girls	100.00
	$360.00

Homes for Women Students.—Desirable room and board for the young women who attend the college, are secured from among the best homes in Fort Collins. They are all under the supervision and regulation of Dean Virginia Corbett, who is the adviser of college women on all matters pertaining to their home life. Only women students are received in these homes reserved for college girls, and reasonable regulations which will insure proper home environment for students, are insisted upon.

Boarding Clubs for Men.—A number of boarding clubs for men have been organized and are managed by the students. In these clubs, board may be obtained for from $18.00 to $20.00 each a month. Well furnished rooms for two persons, lighted, heated, and cared for, may be had at $1.25 each per week. The San Juan Club is an incorporated boarding club, for male college students. Membership is secured by application to the president or steward. On payment of $1.00, together with a reserve deposit of $5.00, board is obtained at the rate of $18.00 a month, payable in advance. The San Juan Club was organized in 1892, and was incorporated under the laws of Colorado in 1903.

Boarding Clubs for Women.—A boarding club for women, under the direct supervision of the Home Economics Department, not only furnishes good board for $16.00 a month, but also serves as a laboratory for work in institutional cookery. It is likely that the supervised boarding clubs will be materially increased the coming year. They give first class board at a minimum price.

Private Board.—Students can secure lodging and boarding in excellent private families at from $25.00 to $35.00 per month, or board alone, from $18.00 to $25.00 per month. The college authorities are gratified to be able to announce that many of the best homes in Fort Collins are thus opened to students at reasonable rates. No one can estimate the influence of home life afforded the young student who is away from home for the first time.

To those who desire to board themselves, ample and reasonable opportunities are afforded.

The Osgood Fund.—Through the generosity of Mr. John C. Osgood, a loan has been provided for worthy students in the Division of Agriculture. The fund is administered by a committee consisting of the President of the College, the Secretary of the Board of Agriculture, and the Chairman of the Division of Agriculture, and is doing noble service in aiding needy students.

College Day.—A day is set aside each year when all students of the college may take a "day off" and go for a good time in the country. In May, each year, a special train is chartered and the whole college family is taken up into the mountains for an all-day picnic. For the year 1918-1919, College Day will be celebrated on May 9. The students and faculty, alike, look forward to this time with great expectation.

Student Labor.—The college is an employer of student labor to a limited extent. It is the policy of those in charge of the different forms of college work, to favor students whenever service is needed. The best qualified and most willing have the preference, if more service is offered than required.

Conduct.—"The college authorities assume that the students are manly men and womanly women and that they come here earnestly desirous of preparing themselves for useful and honorable careers in life. The aim of the faculty is to lead students to cultivate habits of steady application, self-control, a high sense of honor, truthfulness, and an interest in maintaining the purity of the moral atmosphere of the institution. By common consent, students do not smoke on the campus. Those who are not disposed to support heartily a sentiment of this kind should not apply for admission."

Hazing.—Extracts from the Session Laws of Colorado, of 1907, page 337:

"It shall be unlawful for any person to engage in any of these (those) practices commonly called 'hazing,' or in any acts of torturing, tormenting, or in any way maltreating a fellow inmate, employee, or student.

"Any person found guilty of the violation of the provisions of the first section of this act shall be deemed guilty of a misdemeanor and shall upon conviction be fined not less than five dollars nor more than fifty dollars.

"Any officer, teacher or student connected with any of the state institutions of this state who shall be found guilty of violating the provisions of this act, shall, if a teacher or employee, be dismissed from the further service of such state institution, and, if a student, his conviction shall work expulsion from the state institution he may be attending, in perpetuum.

"Any complaint of the violation of the provisions of this act coming to the faculty, board of control, regents, trustees, or officers of any state institution of this state shall immediately be inquired into by them, and it shall be their duty to expel students who may be proven to have been engaged in 'hazing,' tormenting, torturing or maltreating their fellow student, notwithstanding no conviction may have been had before a justice of the peace for the same offense."

Resolutions of State Board of Agriculture.—"Resolved, That the State Board of Agriculture is in full sympathy with the state statute on hazing, and that in the conduct of the affairs of the State Agricultural College and other institutions under its control, this law shall be rigidly enforced."

Division of Agriculture

The instruction in agriculture is designed to meet the needs of two classes of students, those who desire to take up some kind of farming as a business, and those who desire to become agricultural experts, teachers, or investigators.

Agricultural Hall, the Zoology building, Farm Mechanics, Laboratory and Machine House, Horticultural Hall, the Live Stock Pavilion, and the new Soils Laboratory, provide ample classroom and laboratory facilities.

The college herds and the Government Horse Breeding Plant provide unusual opportunity for livestock study. The college farm and the Colorado Experiment Station provide facilities for special study along the lines of agronomy, animal husbandry, entomology, forestry, and horticulture.

Of special importance to all classes of students in agriculture is the insect collection in the museum, which numbers 75,000 specimens, affording unusual opportunity for the study of the pests which prey with such disastrous results on the farm, orchard, and garden.

Agriculture in Colorado, as well as in all the arid states, rests on irrigation. Hence, in this region it becomes a highly specialized science. In addition to the knowledge required of the average farmer in the humid states, the farmer, orchardist, or gardener, in the arid West, must understand the use of water for the production of crops—when to apply it, its use on different soils, the amount required in the varying soils—altitudes and climatic conditions of different seasons.

Furthermore, there are the proper preparations of the fields for the successful application of water, the proper construction of ditches and laterals for its most economical and intelligent distribution. In brief, agriculture by irrigation is in itself a science which must be mastered in order to assure the most profitable results. Instruction is given to include these special conditions. No other institution is so advantageously situated for giving instruction in arid, high altitude and irrigated agriculture.

In addition to the college equipment, there is the highly cultivated region by which it is surrounded—a region where irrigation has been most successfully developed and most profitably practiced, and where all forms of agriculture abound. Thus to the theoretical and practical instruction given in the college are added the opportunities for observations in actual experience provided by the productive and prosperous conditions of agriculture that surround the institution.

Opportunities.—The population of the country is beginning to press upon its productive capacity. Land values have risen enormously, necessitating higher and higher production in order to pay interest on the increased valuation and return a profit. To meet these increased requirements, the farmer must be better trained, more intelligent than ever before, or be reduced to a hopeless drudge. In addition to the opportunities offered for trained men, as farm owners or operators, there are constant requests for properly fitted men as farm managers, consulting experts, teachers and investigators. The college has been unable to fill the numerous requests which it has received for such trained men.

To meet the varied and special agricultural conditions of the state, election is offered in five courses, Agronomy, Animal Husbandry, Entomology, Forestry, and Horticulture. The first two years of these courses are identical. Specialization in the respective courses begins in the junior year.

DIVISION OF AGRICULTURE

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester			Second Semester		
51.	Stock Judging	2	12.	Rural Architecture	2
101.	Botany	5	102.	Agricultural Botany	2
151.	Chemistry	3	153.	Chemistry	3
152.	Chemistry Laboratory	2	154.	Chemistry Laboratory	2
311.	English	3	312.	English	3
318.	Literature	2	319.	Literature	2
653. or 656.	Shop (Bench or Forge)	2	351.	Physiology	3
701.	Military Art	2	656 or 653.	Shop (Forge or Bench)	2
			702.	Military Art	2

SOPHOMORE YEAR

First Semester			Second Semester		
1.	Crop Production	3	2.	Soils	3
*155.	Chemistry	3	52.	Stock Judging	2
156.	Chemistry Laboratory	2	*157.	Chemistry	3
313.	Argumentation	2	158.	Chemistry Laboratory	2
352.	Zoology	3	201.	Surveying	3
359.	Zoology Laboratory	1 1-3	202.	Field Work	2
602.	Algebra	2.5	314.	Argumentation	2
603.	Trigonometry	2.5	501.	General Horticulture	3
703.	Military Art	2	704.	Military Art	2

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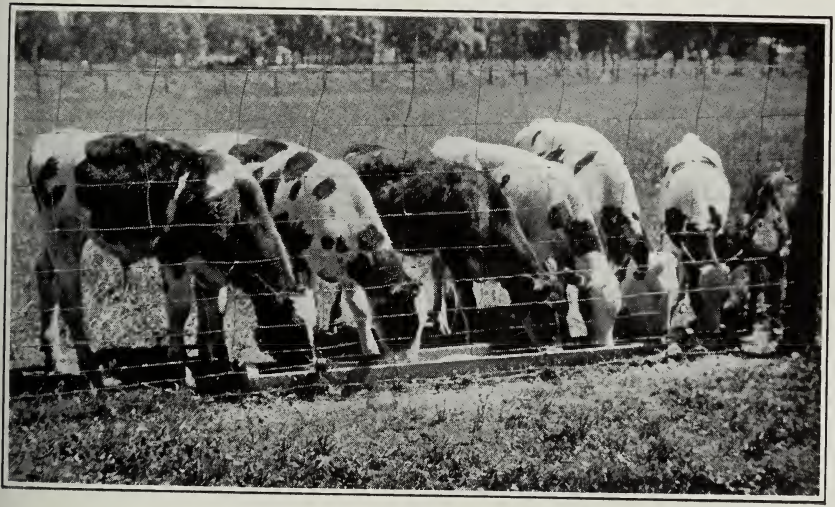
*Forestry students take Physics instead of Organic Chemistry.



Supper Time

THE COURSE IN AGRONOMY

The most pronounced industrial development taking place in Colorado today is in agriculture. This development calls for a knowledge of the principles underlying the management of lands, the maintenance of the productive capacity of soils, and the relation of cropping systems to a permanent, profitable production.

The course in Agronomy is intended to fit young men to meet the problems presented in so far as they relate to the growth of crops and management of lands.

The great diversity of soils, altitude and climate, gives rise to a variety of crops and crop growing conditions rarely equaled. Thus, there is afforded an opportunity for studying crop production and improvement, soil and farm management under irrigated and dry farming conditions, from a moderate altitude to one so high that vegetation ceases to grow.

The modern farm requires the use of a large amount of complicated machinery. Mechanical power of one kind or another is rapidly replacing hand labor upon many farms. Many of the problems of farm labor are being solved by the adaptation of machines and motors to the work on the farm.

To meet this demand, instruction is given in Farm Machinery, Farm Motors, Rural Architecture, and Farm Equipment. Through these courses, the student becomes acquainted with the latest farm machinery, farm implements, and various types of power adapted to farm use. In the study of Rural Architecture, he becomes acquainted with the buildings of the farm, the material avaliable for building purposes, rural sanitation and the essential points to be considered in the use of the material available for the construction of the buildings and equipment of the rural home.

Manufacturers and dealers in farm machinery, farm engines, and equipment, are rather liberal in the loan and donation of up-to-date

Getting Acquainted With Corn Types

He Will Meet the Labor Problem With Modern Machinery

machines, engines, and equipment for instructional purposes. The department now has on hand, upward of $15,000 worth of such implements.

The demand for young men properly trained along these lines is greater than the supply, both in practical and scientific work. **Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.**

While students taking work in this department may choose their electives from any of the subjects for which they are qualified, the following subjects are recommended as desirable electives: 70 Animal Nutrition, 106 Systematic Botany, 10 and 11 Soil Fertility, 9 Agronomy Seminar, Entomology, and 55 Judging and Study of Breeds.

COURSE OF STUDY IN AGRONOMY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

	First Semester			Second Semester	
3.	Crops Laboratory	3	4.	Soils Laboratory	2
13.	Farm Machinery	3	14.	Farm Motors	3
103.	Plant Anatomy	2	211.	Irrigation Engineering	3
755.	Physics	3	757.	Physics	3
756.	Physics Laboratory	2	758.	Physics Laboratory	2
	Electives	6		Electives	6

SENIOR YEAR

	First Semester			Second Semester	
6.	Advanced Farm Crops	3	7.	Farm Management	3
53.	Feeds and Feeding	3	8.	Plant Breeding	3
107.	Plant Pathology	3	895.	Bacteriology	5
301.	Economics	2		Electives	7
	Electives	7			

THE COURSE IN ANIMAL HUSBANDRY

Live stock production and allied industries require a considerable degree of expert knowledge. The Animal Husbandry course aims to give a broad education in general agriculture, and to train for the work of a live stock specialist.

The equipment in live stock at the college ranks with that of the best institutions in the Middle West; and the freedom of electives allowed in the course permits a student to train for any special line of work open to live stock experts.

The graduate from this course has several lines of work open to him, among which are the management of live stock farms and ranches; agricultural jouralism; teaching in agricultural colleges and high schools; investigational work in experiment stations; position as salesmen for live stock houses, and for live stock supply manufacturers; scientific assistant in the Department of Agriculture; and, above all, he is fitted to breed live stock intelligently upon his own farm, if he be so fortunate as to possess one.

The demand for strong men in these lines of work is insistent. The college has placed all its qualified live stock men without difficulty. **Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.**

Although the student is given free choice in the matter of electives, the following are suggested as being particularly suited to this course: Junior year, first semester, 3 Crops Laboratory, 6 Advanced Crops, 64 Swine Husbandry, 66 Buttermaking and Milk Separation, 559-60 First

Where the Student Learns to Judge Live Stock

Preparing for the Stock Show

Year German, second semester; 4 Soils Laboratory, 5 Forage Crops, 65 Pedigree Work, 109 Weeds and Poisonous Plants; senior year, first semester, 60 The Horse, 63 Sheep Raising, 59 Inspection of Dairies, 73 Experimental Methods, 301 Economics, 353 Elementary Entomology, 559 Second Year German; second semester, 10 Soil Fertility, 11 Soil Fertility Laboratory, 70 Animal Nutrition, 71 Poultry Husbandry, 67 Animal Husbandry Seminar, 161 Agricultural Chemistry, 303 Irrigation Law, 561-2 Second Year German, 110 Agrostology.

COURSE OF STUDY IN ANIMAL HUSBANDRY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

53.	Feeds and Feeding	4
55.	Judging Pure Bred Live Stock	2
62.	Testing Milk and Cream	1
361, 354.	Genetics and Embryology	2
755.	Physics	3
756.	Physics Laboratory	2
	Electives	4

Second Semester

54.	Breeds of Live Stock	3
61.	Animal Breeding	3
757.	Physics	3
758.	Physics Laboratory	2
895.	Bacteriology	5
	Electives	5

SENIOR YEAR

First Semester

56.	Beef Production	2
66.	Buttermaking	2
58.	Milk Production	2
855.	Comparative Anatomy	3
	Electives	8

Second Semester

7.	Farm Management	3
68.	Live Stock Practicums	2
857.	Physiology	5
	Electives	8

THE COURSE IN ENTOMOLOGY

The aim of the course in Entomology is to prepare men for positions in the Government Bureau of Entomology and in the various agricultural colleges and experiment stations of the country, and for similar positions in foreign countries. The course also specially prepares young men to act as county horticultural inspectors, and it is a great help to those who wish to become managers of orchards and ranches.

A number of such positions are already being held by our graduates that have specialized in entomology. The better positions call for men with a broad scholarship as a basis for their work. **Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.**

Some Latin and a good reading knowledge of German and French are a great help to anyone pursuing this course.

During the junior year the required work of this course runs parallel with the course in horticulture.

While the students are given full choice in the matter of electives, the following are recommended from among those offered: Junior year, first semester, 103 Plant Anatomy, 3 Crops Laboratory, 401 Elements of Forestry; second semester, 4 Soils Laboratory; 61 Animal Breeding; senior year, first semester, Modern Language, 301 Economics, 210 Photography, 504 Pomology, 505 Pomology Laboratory; second semester, Modern Language, 8 Plant Breeding, 7 Farm Management, 161 Agricultural Chemistry.

COURSE OF STUDY IN ENTOMOLOGY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester			Second Semester		
103.	Plant Anatomy	2	104.	Plant Physiology	3
353.	Entomology	5	353A.	Entomology	3
755.	Physics	3	364.	Insecticides, Fungicides	2
756.	Physics Laboratory	2	757.	Physics	3
	Electives	6	758.	Physics Laboratory	2
				Electives	5

SENIOR YEAR

First Semester			Second Semester		
107.	Plant Pathology	3	303.	Plant Breeding	3
354.	Embryology	1	355.	Forest Insects	1
356.	Entomology	5	357.	Entomology	5
	Electives	10		Electives	10

THE COURSE IN FORESTRY.

The course in Forestry is primarily technical, aiming to teach the principles of the subject and to give considerable field work to show the application of the principles. Forestry is a four-year course. The technical work, beginning in the first semester of the junior year, rather fully occupies the curriculum for the last two years.

By choosing certain electives, the Forestry Department will give work very helpful in preparing students for general forestry work, grazing administration on national forests or private range management of stock, and the retail lumber business.

A course in Farm Forestry, dealing with fence post preservation, windbreak planting, and the planting and care of woodlots, is offered as an elective to agricultural students.

Students who wish to be recommended for teaching or extension positions must take the work required under the state ceritfication law.

College forests of various types to serve as out-of-door laboratories are located on Horsetooth Mountain, close to the city, and at intervals extending as far west as timberline on Comanche Peak, near the Continental Divide. These forests aggregate 1,600 acres. The commodious new Forest Lodge for the accommodation of field classes is located on one of these college forests, forty miles west of Fort Collins.

While the students are permitted to make their own choice of electives, the following list is suggested as offering studies specially suitable for the course: Junior year, first semester, 203 Surveying, 355 Forest Entomology, 301 Economics; second semester, 402 Farm Forestry, 408 Forestry Engineering, 109 Weeds and Poisonous Plants,† 402 Fall Camp, six weeks; senior year, first semester, 417 History of Forestry, 110 Agrostology,† 162 Geology, 210 Photography; second semester, 422 Grazing,† 423 Spring Camp, two weeks; 225 Highway Construction, 418 Forest Policy and Administration.

COURSE OF STUDY IN FORESTRY

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester			Second Semester		
103.	Plant Anatomy	2	104.	Plant Physiology	3
108.	Plant Ecology	3	404.	Dendrology	3
401.	Elements of Forestry	2	406.	Silviculture	3
403.	Dendrology	3	407.	Forest Mensuration	3
405.	Silvics	3	409.	Forest Utilization	2
	Electives	5		Electives	5

SENIOR YEAR

First Semester			Second Semester		
107.	Plant Pathology	3	106.	Systematic Botany	3
411.	Lumbering Report	1	410.	Logging	3
413.	Forest Management	3	414.	Forest Finance	3
415.	Forestry Seminar or Problems	2	416.	Forestry Seminar or Problems	2
419.	Wood Technology	3	420.	Forest Protection	2
	Electives	5		Electives	8

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†Essential for students specializing in grazing subjects.

COURSE IN HORTICULTURE

The horticulture of the Rocky Mountain states is, to a great extent, in a class by itself. The dry atmosphere, high altitude, and the artificial use of water make many of the practices, if not the principles, of horticulture here different from those of the humid sections. The many natural advantages for a high development of horticulture in these sections have brought this industry rapidly to the front. Colorado fruit is already noted, in all the high class markets, for its rich color, perfect form, and fine quality, as well as for the amount of the product.

Other horticultural crops are rapidly coming into prominence. Among these, the potato industry is already an established factor in Colorado wealth. Cabbage, celery, and melon growing are coming to the front, and the possibilities for development in the line of vegetable and strawberry growing in the high mountain valleys are attracting much attention.

These intensive industries bring many problems that are beyond solution by the ordinary grower. For this reason the demand for men who know not only how to grow these plants, but also know the underlying principles of plant growth, their diseases and remedies, is becoming greater year by year.

The course in horticulture is designed to train men to meet this demand. With this end in view, the course has been arranged to give the student a maximum of foundation sciences that he may be equipped to solve the problems that will confront him in the field.

Sufficient time is not avaliable during the course to give the student as much experience in the field as is desired. It is therefore recommended that those students who have had but little experience in horticultural work shall spend one summer vacation or its equivalent in the field.

Grafting

Studying Varieties of Apples

Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.

While the student is given full choice in the matter of electives, it is recommended that the following be taken: First semester, junior year, 403 Dendrology; second semester, 303 Irrigation Law; first semester, senior year, 356 Advanced Entomology, 105 Experimental Plant Physiology; second semester, senior year, 507 Floriculture, 509 Landscape Gardening, 357 Advanced Entomology, 106 Systematic Botany, 108 Ecology of Plants.

COURSE OF STUDY IN HORTICULTURE

For freshman and sophomore years of course, see page 43

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

103.	Plant Anatomy	2
353.	Entomology	5
503.	Small Fruits	2
755.	Physics	3
756.	Physics Laboratory	2
	Electives	4

Second Semester

104.	Plant Physiology	3
502.	Vegetable Gardening	3
757.	Physics	3
758.	Physics Laboratory	2
	Electives	7

SENIOR YEAR

First Semester

107.	Plant Pathology	3
354.	Embryology	1
504.	Pomology	3
505.	Pomology Laboratory	1
507.	Floriculture	2
508.	Floriculture Laboratory	1
	Electives	8

Second Semester

8.	Plant Breeding	3
509.	Landscape Gardening	2
510.	Landscape Gardening Laboratory	1
511.	Forcing Vegetables	2
512.	Experimental Horticulture	3
513.	Plant Evolution and History of Cultivated Plants	2
	Electives	6

Division of General Science

The course in General Science is open to both men and women. During the first two years the student gains a fundamental training in one of the established courses. During the junior and senior years he may pursue advanced studies in any department of the college for which his previous training fits him, except he may not major in a department which now offers a course of study leading to a degree. He selects his major subject at the beginning of the junior year, and, in consultation with the head of the department where the majority of his major credits are to be made, associated minors. The major credits shall not number less than twenty and shall present a consistent line of study throughout the two years. Minors shall be defined to mean such subjects as are naturally related to the majors. The course recommended by his major professor must be approved by the Executive Committee. His major professor is his advisor throughout the junior and senior years.

Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.

COURSE OF STUDY IN GENERAL SCIENCE

The freshman and sopohomore years of the course may be in the Division of Agriculture (page 43), the Division of Home Economics (page 54), the Division of Mechanic Arts (page 57), or the Division of Veterinary Medicine (page 63).

JUNIOR YEAR

First Semester		Second Semester	
Major and Minors	13	Major and Minors	13
Elective	6	Elective	6
	19		19

SENIOR YEAR

First Semester		Second Semester	
Major and Minors	10	Major and Minors	10
Elective	9	Elective	9
	19		19

A Campus Scene

Types of Homes Students Find in Fort Collins

Division of Home Economics

The Division of Home Economics offers to women a four-year combined academic and technical course, offering in addition to a major course in Home Economics the choice of a minor course in modern language, history and English, the biological sciences, chemistry and physics, mathematics and physics, chemistry, mechanical engineering, or education. In this election, the minimum number of credits required toward the completion of a minor course is thirty.

There is uniform requirement for all students in the first two years. In the junior and senior years, opportunity is given for election in Domestic Science or Domestic Art. This enables the student to do more intensive work in the direction of her special interest. Each course leads to the degree of Bachelor of Science.

Students training for vocational teaching must have completed all Home Economics subjects announced in the courses of study for the freshman, sophomore and junior years, and the courses in The House, Demonstrations and the Teachers' Course of the senior year, in order to meet the requirements of the state and federal boards. **Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.**

A liberal choice of electives is open to junior and senior students. A few of the courses are planned to meet the specific need of students who contemplate entering vocational fields of work other than teaching.

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester

151.	Chemistry	3
152.	Chemistry Laboratory	2
311.	English	3
318.	Literature	2
463.	Sewing I	3
602-603.	Mathematics, or 351-365 Physiology and Personal Hygiene	5
751.	Household Physics	2
752.	Household Physics Laboratory	1
	Gymnasium	1

Second Semester

153.	Chemistry	3
154.	Chemistry Laboratory	2
312.	English	3
319.	Literature	2
455.	Foods I*†	2
604.	Mathematics, or 101A Botany	5
753.	Household Physics	2
754.	Household Physics Laboratory	1
	Gymnasium	1

SOPHOMORE YEAR

First Semester

155.	Chemistry	3
156.	Chemistry Laboratory	2
313.	Argumentation	2
352, 360.	Zoology or	4 1-3
605.	Differential Calculus	5
456.	Foods II	3
551-5.	Modern Language	5
	Gymnasium	1

Second Semester

157.	Chemistry	3
158.	Chemistry Laboratory	2
310.	Modern History	3
314.	Argumentation	2
457.	Foods III	2
464.	Sewing II	2
552-6.	Modern Language	5
	Gymnasium	1

*Required of Home Economics students not presenting Domestic Science upon entering.

†All students registered for courses in foods must wear as laboratory uniform, white tailored waist of cotton or linen, and white apron, of design executed by the department. Upon request, detailed information will be sent, regarding the type of apron, hand towel, and holder required. Lockers are available. The deposit of one dollar for locker key is refunded at the close of the year, upon the return of the key.

COURSES OF STUDY IN HOME ECONOMICS

For freshman and sophomore years of course, see page 54

The number before a subject refers to its description, the number after it refers to credits.

JUNIOR YEAR

First Semester						Second Semester					
Domestic Science			Domestic Art			Domestic Science			Domestic Art		
302.	Sociology	5	302.	Sociology	5	804-5.	Psychology	5	804-5.	Psychology	5
458.	Foods IV	4	465.	Textiles I	2	459.	Dietetics	2	466.	Textiles II	2
896.	Bacteriology	5	468.	Drafting and Design	3	454.	Home Nursing	2	469.	Dressmaking I	2
	Gymnasium	1		Gymnasium	1		Gymnasium	1	454.	Home Nursing	2
	Electives	4		Electives	8		Electives	9		Gymnasium	1
										Electives	5

SENIOR YEAR

322.	English Literature	3	322.	English Literature	3	323.	Literature	3	323.	Literature	3
324.	History	2	324.	History	2	325.	History	2	325.	History	2
451.	The House	5	451.	The House	5	452.	The House	5	452.	The House	5
475.	Teachers' Course	3	475.	Teachers' Course	3	460.	Serving of Meals	3	470.	Dressmaking II	3
	Gymnasium	1	472.	Millinery	2	474.	Demonstration	2	474.	Demonstrations	2
	Electives	5		Gymnasium	1		Gymnasium	1		Gymnasium	1
				Electives	3		Electives	3		Electives	3

In the election of a minor course other than English and History, courses in that minor may be substituted for History 308, 309, or 324, 325, and Literature 322 and 323.

Elective subjects of especial interest are the courses offered in Music, 507 Floriculture, 509 Landscape Gardening, 358 Ornithology, 653 Bench Work in Wood, 66 Buttermaking and Milk Separation, 802 History of Education, 801 Methods of Teaching with Observation, 303A Commercial Law, 315,316 Journalistic Writing, 7 Poultry Husbandry, and 326 Eugenics. The group of Home Economics electives includes 476 Household Economy, 477 Special Problems, 473 Tailoring, 471 Art Needlework. Practice Teaching, 461 Problems in Dietary Calculations, 467 Textiles III, 477 Institutional Cookery, and, opportunity classes and subjects included in the apprentice course for Extension workers. While it is open for the student to take any line of electives she desires, yet it is recommended that some be chosen in the direction of the plan for future activity.

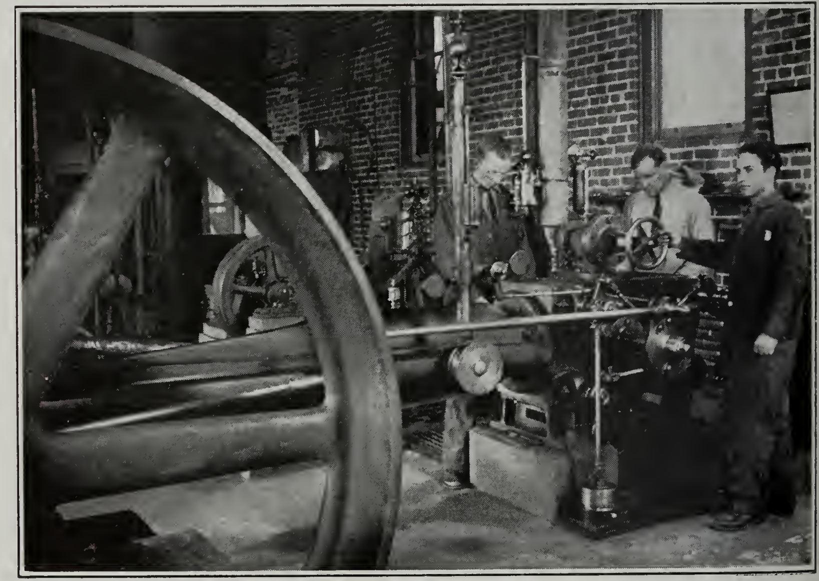
Division of Mechanic Arts

In Mechanic Arts, the college offers standard four-year courses in Civil and Irrigation Engineering, in Electrical Engineering, and in Mechanical Engineering.

The studies for the first two years are the same for all engineering courses. Specialization begins with the junior year, and in the junior and senior years considerable freedom in the choice of studies is allowed. A strong faculty, splendid buildings, excellent equipment, and library facilities combine to make the engineering courses especially thorough. The regular college work is supplemented with a great deal of practical outside experience. The summer field camp for Civil and Irrigation engineers, and inspection trips for the senior Electrical and Mechanical engineers, give a good knowledge of the practical needs of the profession.

Students in the Division of Mechanic Arts do much of the engineering work around the college. All of the electric wiring, installation of motors and transformers, electrical and much of the mechanical repair work, the designing and building of experimental apparatus is done by the students of this division.

The great natural resources of Colorado have been developed only sufficiently to show the possibilities of industrial development. This industrial development calls for an increasing number of well trained men. The building of railroads and trolley lines, of dams, canals and reservoirs, of hyrdo-electric plants and transmission lines, of factories and reduction



Putting An Engine Through Her Paces Under Test

plants, all offer opportunities for the young engineer; while the operation of these industrial enterprises opens up ever increasing opportunities for the technical graduate.

DIVISION OF MECHANIC ARTS

COURSE OF STUDY FOR FIRST TWO YEARS

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

	First Semester			Second Semester	
151.	Chemistry	3	153.	Chemistry	3
152.	Chemistry Laboratory	2	154.	Chemistry Laboratory	2
301.	Economics	3	201.	Surveying	3
602.	College Algebra	2.5	202.	Field Work	1 1-3
603.	Trigonometry	2.5	604.	Analytic Geometry	5
652.	Mechanical Drawing	2	655.	Mechanical Drawing	2
653 or 656.	Shop (Bench or Forge)	2	656 or 653.	Shop (Forge or Bench)	2
654.	Shop (Lathe)	1 1-3	702.	Military Art	2
701.	Military Art	2			

SOPHOMORE YEAR

	First Semester			Second Semester	
311.	English	3	306.	U. S. Constitution	2
318.	Literature	2	312.	English	3
605.	Differential Calculus	5	319.	Literature	2
657.	Descriptive Geometry	5	606.	Integral Calculus	5
755.	Physics	3	757.	Physics	3
756.	Physics Laboratory	2	758.	Physics Laboratory	2
703.	Military Art	2	759.	Applied Mechanics	3
			704.	Military Art	2

(Civil and Irrigation Engineering sophomores take 207 Field Camp No. 1.)

Checking Up On the Coal Man—Testing Heat Value of Coal

THE COURSE IN CIVIL AND IRRIGATION ENGINEERING

Successful agriculture in Colorado is based upon the science of irrigation, and existing conditions in this state call for knowledge along these lines.

As the training in this line is closely associated with the other purposes of the land grant colleges, Civil and Irrigation Engineering has occupied a prominent place in the college for over twenty-five years. It was the first course of the kind ever given in any American college. That the training has proved useful is shown by the records of the young men who have taken it and have attained prominent position in the irrigation development of this and adjoining states, responsible positions in the Government Reclamation service, and positions of trust in many foreign countries.

The intention of the course is to give a broad and thorough foundation for engineering in general, but especially for irrigation engineering, and therefore special attention is given to subjects relating to irrigation, hydraulics, canal construction, and their applications. It is intended not only to give a student the proper theoretical foundation, but to give skill in handling instruments, so that a student will be self-reliant and capable of accurately handling instrumental problems. This also includes instruction in measurement of streams, rating of ditches, etc.

The branch of highway construction has been taught in this department for years, and that, together with the surveying, strength of materials, concrete bridges, etc., places the graduates of this department where experience only is necessary to make them expert road engineers.

Considerable attention is given to practical problems that will cultivate the judgment and self-reliance, and will train the student to meet exigencies as they arise.

The splendid new Civil and Irrigation Engineering building, and equipment, make it possible for this institution to offer students in this department advantages for instruction possessed by no other college in the United States.

Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.

While the student is given full choice in the matter of electives, it is recommended that the electives be taken from the following: Junior year, first semester, 210 Photography, 1 Crops; second semester, 227 Seminar, 2 Soils; senior year, first semester, 251 Dynamos and Motors, 216 Water Supply, 228 Seminar, 231 Irrigation Laboratory, 3 Crops Laboratory, 607 Engineering Astronomy; second semester, 230 Thesis, 229 Seminar, 233 Graphic Statics, 214 Meteorology, 217 Drainage, 4 Soils, 215 Canal Management, 225 Highway Construction.

COURSE OF STUDY IN CIVIL AND IRRIGATION ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

203.	Surveying	3
204.	Field Work	2
207.	Field Camp No. 2	1
208.	Drafting	2
219.	Strength of Materials	5
220.	Testing Laboratory	1
	Electives	6

Second Semester

205.	Canal Surveying	2
206.	Field Work	1
211.	Irrigation Engineering	3
212.	Hydraulics	5
213.	Hydraulic Laboratory	2
	Electives	7

SENIOR YEAR

First Semester

207.	Field Camp No. 3	1
223.	Engineering Design	3
224-303A.	Contracts and Specifications	2
221.	Trusses and Bridges	4
	Electives	10

Second Semester

218.	Dams	2
222.	Concrete	2
232.	Irrigation Laboratory	2
303.	Irrigation Law	2
225.	Highway Construction	2
	Electives	10

Practical Work in the Field

THE COURSE IN ELECTRICAL ENGINEERING

The object of the course in Electrical Engineering is to train young men for service in the Electrical Engineering profession. The course offered is in accordance with the electrical engineering courses of the large technical institutions. The department is well prepared both in instructional force and laboratory equipment to give the highest type of work.

We believe that a student learns best by doing. The student is therefore given an opportunity to get experience here which he usually does not get until after leaving college. The electrical work about the college is done by students of the department.

Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.

While it is open for the student to make his own choice of electives it is recommended that subjects from the following list of electives be taken:—Junior year, first semester, 220 Testing Laboratory, 658 Steam Boilers; second semester, 258 Electric Lighting and Photometry; senior year, first semester, 259 Telephones and Telegraph, 260 Telephones and Telegraph Laboratory, 667 Steam Engines, 266 Electrical Design, 26 Seminar; second semester, 272 Thesis, 270 Hydro-Electric Machinery 273 Thesis, 265 Street Railways.

COURSE OF STUDY IN ELECTRICAL ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester			Second Semester		
219.	Strength of Materials	5	212.	Hydraulics	
253.	Direct Currents	2	254.	Direct Currents	
760.	Electrical Measurements	3	255.	Electrical Laboratory	
761.	Electrical Measurements Laboratory	2		Electives	
	Electives	7			

SENIOR YEAR

First Semester			Second Semester		
259.	Alternating Currents	5	261.	Alternating Currents	
260.	Alternating Current Laboratory	5	262.	Electrical Laboratory	
	Electives	10	271.	Electrical Power Transmission	
				Electives	1

Electrical Engineering Building

THE COURSE IN MECHANICAL ENGINEERING

Mechanical Engineering relates to the construction and use of machinery, such as steam engines, machine tools, etc.

The course as presented at the Colorado Agricultural College is such as is given at the best technical schools of the United States. The instruction is intended to be thorough and the equipment is of the very best, care being taken when obtaining apparatus, that each piece shall be of the greatest usefulness for its purpose. Colorado is forging ahead magnificently along industrial lines, and with the development of the vast natural resources within her borders, new industrial enterprises are springing up everywhere, while the older ones are becoming more firmly established. With this industrial demand, comes a demand for men competent to solve the problems connected with such enterprises. Young men from this college are in many of these establishments, occupying positions of trust and responsibility.

This course prepares students for the profession of mechanical engineering. It teaches the general principles of engineering and unites theoretical work and practical research. Instruction is imparted by means of text-books, lectures, illustrations, and experiments in testing materials, machines and motors.

Students who wish to be recommended for teaching or extension positions must take the work required under the state certification law.

While it is open to the student to take any elective study he desires. yet it is recommended that they be taken from the following list:—Junior year, first semester, 220 Testing Laboratory, 660 Gas and Oil Engines, 669 Transmission of Power, 665 Machine Design; second semester, 664 Machine Shop Tools, 661 Machine Design; senior year, first semester, 670 Machine Design, 671 Specifications and Contracts, 672 Seminar, 677 Railway Mechanical Engineering, 683 Thesis; second semester, 673 Materials of Machines, 675 Shop, 679 Steam Engine Design, 680 Compressed Air Machinery, 681 Seminar, 684 Refrigerating Machinery, 222 Concrete.

COURSE OF STUDY IN MECHANICAL ENGINEERING

For freshman and sophomore years of course, see page 57

The number before a subject refers to its description, the number after it refers to credits

JUNIOR YEAR

First Semester

219.	Strength of Materials	5
658.	Steam Boilers	3
659.	Principles of Mechanism	3
662.	Shop (Foundry)	3
663.	Shop (Pattern Making)	2
	Electives	4

Second Semester

212.	Hydraulics	5
666.	Machine Work in Metals	3 1-3
668.	Thermodynamics	3
	Electives	7

SENIOR YEAR

First Semester

51.	Dynamos and Motors	3
52.	Dynamos and Motors Laboratory	2
67.	Steam Engines and Steam Turbines	3
74.	Shop (Machine)	2
	Electives	10

Second Semester

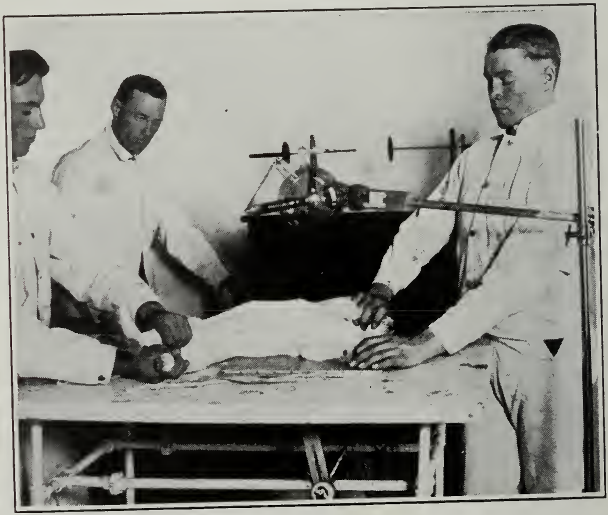
676.	Engineering Design	3
678.	Heating and Ventilation	3
683.	Thesis	2
686.	Mechanical Engineering Laboratory	3
	Electives	9

Division of Veterinary Medicine

The Division of Veterinary Medicine offers a four-year professional course of nine months each year, and being based on a fifteen unit requirement for matriculation, is in accord with the highest standards in veterinary education. The added work in Animal Husbandry should meet the demands for veterinarians with scientific knowledge of the principles of breeding, dairying, feeding, adaptation of types to market demands, and judging of individual excellence.

Opportunities for Veterinarians.—Veterinary Medicine in its several fields of activity affords unusual opportunities for young men of character and professional training. Many veterinarians have been called into the army and this combined with the greatly increased value of live stock has created an unprecedented demand for veterinary practitioners. There are many populous live stock communities in all of the states without veterinary supervision and this demand will exist long after the war is over. While the gas engine has in large measure eliminated the horse, there have been created so many other avenues of service that the usefulness of the trained veterinarian must be looked upon as being only in its infancy. The demand for food-producing animals must increase commensurate with the ever growing population and the future of the veterinarian in live stock conservation is assured.

Veterinarians in the army have the rank and privileges of secon lieutenant, with a salary of $1,700 a year and allowances. They are subject to promotion to rank of major with a salary of $4,000 a year. Thei duties are to inspect all horses purchased for the army and to have veterinary supervision of the same. They inspect all foodstuffs for the remoun



The Colorado Agricultural College is Doing Pioneer Work With the X-ray Veterinary Practice and see that diseased meats do not reach the men in service. Many veterinarians are employed in the Bureau of Animal Industry as meat inspectors, quarantine officers, and in the investigation and control of animal diseases. Salaries begin with $1,500 per annum.

Veterinarians find employment in many other ways, such as:

State and Deputy State Veterinarians
City and County Veterinarians
Municipal Food Inspectors
Veterinarians to Experiment Stations
Extension Veterinarians
Instructors in Veterinary Colleges
Producers of Biological Products
Veterinarians to special live stock associations
Special hog cholera eradication agents
United States Inspectors of Biological Products
Veterinarians to large corporations

As counsellors to breeders and importers, and in many other ways as guardians of the animal wealth and the public health

FOUR YEAR COURSE IN VETERINARY MEDICINE

The number before a subject refers to its description, the number after it refers to credits

FRESHMAN YEAR

First Semester			Second Semester		
51.	Stock Judging	2	52.	Judging Market Types of Horses and Cattle	2
101.	Botany	5	153.	Chemistry	3
151.	Chemistry	3	154.	Chemistry Laboratory	2
152.	Chemistry Laboratory	2	312.	English	3
701.	Military Art	2	702.	Military Art	2
851.	Anatomy	3	852.	Anatomy	3
			857.	Physiology	5
			875.	Surgical Restraint	1

SOPHOMORE YEAR

First Semester			Second Semester		
352-359.	Zoology	4 1-3	704.	Military Art	2
703.	Military Art	2	854.	Anatomy	5
853.	Anatomy	3	860.	Physiology Laboratory	2
856.	Histology	5	868.	Parasitology	3
859.	Physiology	3	871.	Bacteriology	5
861.	Materia Medica	3	862.	Materia Medica	3

JUNIOR YEAR

First Semester			Second Semester		
53.	Feeds and Feeding	4	54.	Breeds of Live Stock	3
62.	Testing of Milk and Cream	1	61.	Animal Breeding	3
854.	Embryology	1	109.	Weeds and Poisonous Plants	2
861.	Genetics	1	865.	Pharmacy	2
870.	Pathology	5	877.	Surgery	2
876.	Surgery	2	881.	Lameness	3
888.	Clinic	2	885.	Clinic	2
889.	Theory and Practice	4	890.	Theory and Practice	3

SENIOR YEAR

First Semester			Second Semester		
805.	Jurisprudence	1	867.	Therapeutics	2
866.	Therapeutics	2	874.	Laboratory Diagnosis	2
869.	Meat Inspection	3	879.	Surgical Exercises	1
73.	Laboratory Diagnosis	2	880.	Surgery	2
78.	Surgery	2	883.	Shoeing and Soundness	2
82.	Obstetrics	3	884.	Canine Medicine	1
87.	Clinic	2	888.	Clinic	2
91.	Theory and Practice	5	893.	Dairy Inspection	2
			892.	Theory and Practice	5

Apprenticeship Course for Extension Workers

Qualifications.—A candidate for apprenticeship shall hold a bachelor's degree with major in agriculture or home economics, or shall have done an equivalent amount of work in one or the other of these lines. The candidate, if a man, must have been farm reared, or must have had two years' experience in farming; if a woman, must be genuinely interested in country life and its problems.

Course of Study.—Each apprentice shall spend six months in the field assisting a county agriculturist or specialist, assisting judges at fairs or instructors in extension schools; and shall spend five months on the campus, in the study of office methods, special courses in rural sociology, economics, psychology, if they have not been studied previously, and such other subjects as the particular apprentice may need. He shall familiarize himself with the use of the typewriter, the dictaphone, and the stereopticon; and shall become proficient in freehand lettering and in the making of charts.

Expenses.—The expenses of the apprentices will be paid during the time they are in the field.

Certificates.—Apprentices having successfully completed the eleven months of work as outlined, will be given certificates stating the nature and amount of training received.

Applications.—Applications of those wishing to pursue the course should be sent to the Director of Extension not later than June first.

Forty-nine Persons Are Now Serving the State in the Extension Service

DEPARTMENTS

AGRONOMY

ALVIN KEZER	Professor
J. D. MARSHALL	Associate Professor
L. F. GAREY	Associate Professor
E. R. GROSS	Associate Professor
J. T. COPELAND	Instructor
*CLARK ALFORD	Assistant

The Department of Agronomy gives instruction in those subjects which relate to the production of field crops, to soils, and to the management of land. The great diversity of Colorado soils, climate, and elevation gives a diversity of crops and crop culture rarely equaled. In meeting these diverse conditions, abundant opportunity is offered to study the many phases of crop production, plant breeding, soil physics, soil fertility, and farm management.

1.—Crop Production.—A study of cropping under dry farming, irrigation, and in high altitudes, the conditions of soil and climate governing the growth, adaptability and distribution of Colorado crops and cropping areas. While some attention is given to crops and cropping in the United States and other parts of the world, especial attention is given to the Colorado environment and its crops. Required in the Division of Agriculture, six hours attendance, three credits, first semester, sophomore year. Mr. Marshall

2.—Soils.—Principles of the origin, physics, chemistry and biology of soils; their relation to crop production. Special emphasis is given to soils of arid and semi-arid climates, the effect of different soils and soil conditions upon the production of plant crops. Required in the Division of Agriculture, six hours attendance, three credits, first semester, sophomore year. Text: "Soils; Their Properties and Management," by Lyon, Fippin, and Buckman. Mr. Marshall

3.—Crops Laboratory.—Laboratory study of Colorado field crops. Identification and classification. Relation of parts and their economic uses. Seed storing, purity, and germination. Treatment of economic diseases. Grading and judging. The student becomes familiar with crops, their appearance, testing, use, preparation for market; and exhibit, handling, and shipping technique. Required, six hours attendance, three credits, first semester, junior year. Mr. Marshall

4.—Soils Laboratory.—Physical and mechanical properties of soils, their relation to tillage, soil moisture, water application, and crop growth. Required, four hours attendance, two credits, second semester, junior year. Fee, $2.00. Mr. Marshall

5.—Forage Crops.—A laboratory and classroom study of the native and cultivated grasses, pasture, meadow and forage crops. Their occurrence, culture, adaptability to different regions, feeding value, and uses. Prerequisite, Course 1. Students without prerequisite may enter only by consent of the head of the department. Elective, four hours attendance, two credits, second semester. Mr. Garey

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*Resigned.

sition, adaptability, marketing and uses. The value of crop rotation and some of the important rotations for Colorado and other sections of the United States. The effect of environmental factors, both in Colorado and elsewhere upon crop growth, use, and distribution, is given attention,—world factors, which influence crop competition, movement, and grouping. Prerequisites, Courses 1 and 3. Three hours attendance, three credits, first semester, senior year. Mr. Garey

7.—Farm Management.—The farming business; relation and adjustment of the various activities, location of farm, equipment, labor, accounting and marketing. Types or systems of farming and their relation to a permanent agriculture. Irregular or special students may not elect Farm Management without the consent of the head of the department. Six hours attendance, three credits, second semester, senior year. Mr. Garey

8.—Plant Breeding.—A study of the principles of plant improvement. Theories of heredity and variation. Improvement of plant crops by breeding. Work of modern plant breeders. Text, lectures, readings. Irregular and special students may not elect Plant Breeding, without the consent of the head of the department. Six hours attendance, three credits, senior year, second semester. Mr. Kezer

9.—Agronomy Seminar.—Lectures, readings, and consultations on assigned agronomic topics. Elective, first semester, senior year, one hour attendance, one credit, unless otherwise arranged. Mr. Kezer

10.—Soil Fertility.—The productive capacity of lands. The relation of manurage, farming methods, and systems of fertility and its maintenance. Elective, second semester, senior year, three hours attendance, three credits. Course offered in even years. Mr. Kezer and Mr. Marshall

11.—Soil Fertility Laboratory.—Laboratory work, illustrating principles of soil fertility. Field observations, lectures, and readings. Elec-

Collecting Soil Samples To Be Tested in the Laboratory

tive, second semester, senior year, four hours attendance, two credits.
Mr. Kezer and Mr. Marshall

12.—Rural Architecture.—The student will be required to make complete working drawings for selected or assigned rural buildings and equipment. In addition to the designing of buildings, a portion of the time will be devoted to the study of building materials available for the rural builder, including farm cement and concrete construction, and such other building materials as are most readily available in the rural community. The minor equipment about the farm, and minor building equipment for increasing the convenience of such structures will receive proper emphasis. Required, second semester, freshman year, six hours attendance, three credits.
Mr. Gross

13.—Farm Machinery.—A course of instruction in the machinery of the farm. The various machines, their uses and manufacture are studied in relation to their various places of operation upon the farm. Tillage machinery, seeding machinery, harvesting machinery, pumping machinery, and general labor saving machinery adapted to the different processes of farm work are taken up and studied. Usually machines adapted for each of these purposes are available from a number of different manufacturers. Six hours attendance, three credits, first semester, junior year. Text: "Farm Machinery and Farm Motors," by Davidson and Chase. Fee, $1.00.
Mr. Gross

14.—Farm Motors.—A study of the motors and power machinery available for farm use. The plans of construction, the care and use of the various types of these motors are carefully studied, including the following motors: The horse; steam, gasoline, water and electric engines. Methods of applying these various motors to use upon the farm are illustrated. Required, second semester, junior year, six hours attendance, three credits. Fee, $2.00.
Mr. Gross

15.—Rural Architecture.—A more advanced course in rural architecture than Course 12. This course is recommended as elective for Agronomy, Animal Husbandry, and Horticultural students. Credit according to work done. Prerequisites, Courses 12, 13, and 14. May be elected by other than regular students only by the consent of the head of the department.
Mr. Gross

16.—Seminar in Marketing and Cooperation.—Study of the fundamental principles of market distributions applied to agricultural products. Principles of cooperation and agricultural business and technology. Elective; may be offered in either semester. Open to juniors and seniors. Others register by consent of department. One or more hours attendance, one or more hours credit. Work in laboratory or library will be assigned, credit at the rate of three hours attendance for one credit. Text: "The Marketing of Farm Products," Weld.

17.—Seminar in Advanced Marketing.—A more advanced study of the trade organizations which have to do with the distribution of farm commodities from producer to consumer. Prerequisites, Course 16. Elective, one hour attendance, one credit. Text: "Agricultural Commerce," Huebner.

18.—Irrigation Farming.—A study of problems related to the use of irrigation in the production of crops; methods of applying water to crops, variations of practice due to different crops and soils; when to apply; critical periods in plant needs; effect upon soils; crop and soil effects of drainage; farm irrigation practice, including use of water, choice of crops; farm water management. Elective for juniors and seniors, four hours attendance, two credits; others only by permission of department head.

ANIMAL HUSBANDRY

G. E. MORTON	Professor
CHAS. I. BRAY	Associate Professor
R. McCANN	Associate Professor
W. F. DROGE	Assistant Professor
P. F. SCHOWENGERDT	Instructor
R. H. TUCKER	Instructor
T. E. LEIPER	Instructor

51.—Judging Market Types of Sheep and Swine.—Training in the judging of mutton and fine-wooled sheep, and of lard and bacon hogs.

High class, show winning representatives of Shropshire, Hampshire, Cotswold and Rambouillet sheep, and of Poland China, and Duroc Jersey swine are used for class work. Required in the Divisions of Agriculture and Veterinary Medicine, four hours attendance, two credits, freshman year, first semester. Text: Curtis' "Live Stock Judging and Selection."

Mr. Schowengerdt and Mr. Tucker

52.—Judging Market Types of Horses and Cattle.—Score card and ring judging of horses and cattle. Hereford, Shorthorn, Guernsey, Jersey, and Holstein-Friesian cattle, and American Saddle, Standard Bred, and Percheron horses owned by the college, are used for judging work. Required in the Agricultural Division, sophomore year, and in Veterinary Medicine, freshman year, four hours attendance, two credits, second semester. Text: Curtis' "Live Stock Judging and Selection."

Mr. Schowengerdt and Mr. Tucker

Station Feeding Experiments Furnish Practical Object Lessons for Students

53.—Feeds and Feeding.—The elements of animal nutrition. Calculation of balanced rations. Study of various feeds and feeding stuffs, especially those used in Colorado. Theory and practice of feeding horses, dairy cattle, beef cattle, sheep, and swine. Prerequisites, 151, 152, 153, and 154. Not elective for irregular or special students except with the consent of the head of the department. Required in Animal Husbandry and Veterinary Medicine, junior year, four hours attendance, four credits, first semester. Text: "Feeds and Feeding," Henry. Mr. Bray

54.—Breeds of Live Stock.—A course in which the breeds of all classes of live stock are studied in connection with judging. Required in Animal Husbandry course, junior year, second semester, three hours attendance, three credits. Text: Plumb's "Types and Breeds of Farm Animals."
Mr. Schowengerdt

55.—Judging Pure Bred Live Stock.—The Animal Husbandry Department has representative animals of all the principal breeds, many of them prominent prize winning or imported animals. Required in Animal Husbandry course, junior year, first semester, four hours attendance, two credits. Prerequisites, 51, 52, 54. Text: "Judging Live Stock," Plumb.
Mr. Droge

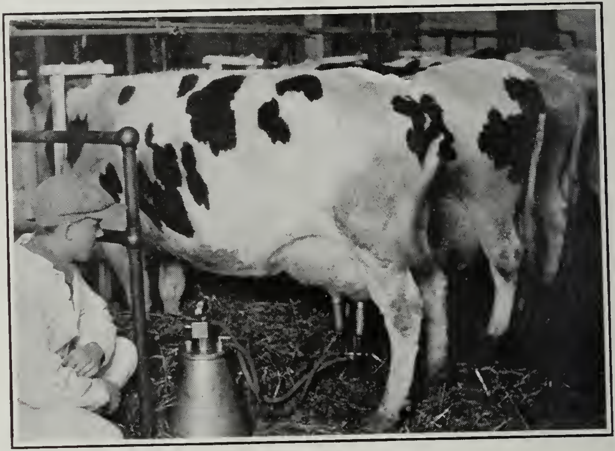
56.—Beef Production.—Modern methods of producing beef for the market, economic conditions to be considered, feed yard equipment, breeding and selection of stock, feeding and management. Required in the Animal Husbandry course. Prerequisites, 53, 54. Two hours attendance, two credits, senior year, first semester. Lectures and assigned work. Texts: Mumford's "Beef Production," and Barnes' "Western Grazing Grounds."
Mr. Bray

57.—Meats.—A study of meats and the cuts of meat from the producer's standpoint. The effect of feed on the quality of meat, the chemical composition of meats, killing and dressing of live stock, and cutting and curing of meats. Trips are made to local packing houses and meat shops, and to the Denver packing houses. Probable cost, $5.00. Elective, one hour lecture, two hours laboratory, two credits, senior year, first semester. Lectures and demonstrations. Mr. Bray

58.—Milk Production.—Principles of dairy farming, economic and sanitary milk production, available feeds, management of herd, keeping of records of individual cows. Prerequisites, 54, 55. Required in the Animal Husbandry course, two hours attendance, two credits, senior year, first semester. Lectures. Mr. Morton

59.—Dairy Inspection.—Principles and practices of dairy inspection and handling of dairy products from producers to consumers. Instructor is also Deputy State Dairy Commissioner and the experience of the office is made a vital part of the course. Prerequisites, 58, 62, 72. Elective, two hours attendance, two credits, second semester, senior year. Text: McNutt's "The Modern Milk Problem." Mr. McCann

60.—The Horse.—The horse as a machine. Selection, breeding, care and training of horses. Elective, first semester, senior year, two hours



Getting the Milk the Modern Way

attendance, two credits. Prerequisites, 52, 53, 54, 55. Texts: Hayes' "Points of the Horse," and Gay's "Profitable Horse Husbandry."
Mr. Schowengerdt

61.—Animal Breeding—Includes work on the principles, methods and practice of breeding; a study of heredity, atavism, variation and allied subjects and the methods of breeding farm animals practiced by the leadnig improvers of live stock. Required of Animal Husbandry and Veterinary Medicine juniors, three hours attendance, three credits, second semester. Prerequisites, 354, 361.
Mr. Morton

62.—Testing Milk and Cream.—The use of the Babcock test for determining the percentage of butterfat in milk and cream. Required in the Animal Husbandry and Veterinary Medicine courses, junior year, first semester, two hours attendance, one credit. Text: Farrington and Woll's "Testing Milk and Its Products."
Mr. Droge

63.—Sheep Raising.—Practical side of breeding; handling on the farm and range; lamb feeding. Production, grading and marketing of wool. Elective in the Animal Husbandry course, two hours attendance, two credits, senior year, first semester. Prerequisites, 53, 54, 55, 61.
Mr. Bray

64.—Swine Husbandry.—Pork production; swine breeding, relation of industry to dairy farming; economical rations; hog farming. Prerequisites, 51, 53, 54, 55. Elective, two hours attendance, two credits, junior year, first semester.
Mr. Morton

65.—Pedigree Work.—Sets of all the leading American and several foreign herd books are available for this work. A close study of pedigrees, and of the methods of writing and recording them. Elective, two hours attendance, one credit, junior year, second semester. Assigned work.
Mr. Bray

66.—Buttermaking and Milk Separation—The making of butter under farm conditions. Care of separators, effect of various changes upon sepa-

They Will Know How to Make Good Butter and How to Prepare it for Market

rators, and a study of leading makes of separators. Must have had, or be taking 62. Required, first semester, senior year, four hours attendance, two credits. Text: McKay and Larsen's "Principles and Practice of Butter Making."

Mr. Droge

67.—Animal Husbandry Seminar.—Students work up selected subjects and report on them, making use of current literature and recent experimental and research work. The recitation period is devoted to discussion. Prerequisites, 53, 54. Elective for juniors and seniors, two hours attendance, two credits, second semester.

Mr. Bray

68.—Live Stock Practicums.—Instruction and practice in cleaning and grooming animals, splicing rope and making halters, braiding manes and tails, trimming feet of farm stock, fitting for show, fitting harness to horses, throwing cattle, shearing sheep, dipping live stock and performing common live stock operations. Elective for Animal Husbandry seniors only, four hours attendance, two credits, second semester.

Mr. Bray and herdsmen

69.—Poultry Husbandry.—Breeds, breeding, feeding and care of fowls. Elective, three credits, senior year, first semester.

Mr. Schowengerdt

70.—Animal Nutrition.—An advnaced study of the principles and processes of nutrition. The production values of feeding stuffs and the feed requirements of animals. Prerequisites, 53, 151, 152, 153, 154. Elective, three hours attendance, three credits, senior year, second semester. Text: "The Nutrition of Farm Animals," Armsby.

Mr. Bray

71.—Poultry Laboratory.—Practical instruction in housing, feeding and caring for fowls; judging breeds and types; incubating and rearing chicks, fattening and marketing. Students will be required to plan poultry

buildings, brooders and brooder houses, feeding appliances, etc., and help in their construction; also to take charge of the work of caring for fowls, incubating and rearing chicks. Prerequisite, 69. Elective, two credits, four hours attendance, senior year, second semester. Fee, $3.00.
Mr. Schowengerdt

72.—Creamery Work.—Advanced work is given in testing dairy products, creamery calculations, cream ripening, starters, churning, packing and marketing of butter, composition of butter, judging butter, cheese-making, etc. Elective, four hours attendance, senior year, two credits, second semester. Prerequisite, 62, 66. Text: Michel's "Creamery Butter Making." Fee, $1.00.
Mr. Droge

73.—Experimental Methods.—A study of modern methods of live stock experimentation, accompanied by practice in conduct of an experiment. Elective, first semester, senior year, five credits. Lectures and assigned work.
Mr. Leiper

76.—Advanced Stock Judging.—Advanced work in judging fat stock and pure bred classes. Show-ring methods and management. This course will include trips to nearby stock farms, and a six days trip to some of the leading stock farms of the state to study the best types of pure bred stock. Estimated cost of trip, $25.00. Prerequisites, 51, 52, 55. Elective, senior year, first semester, six hours attendance, three credits. Required of candidates for stock judging team. Elective only for men having a grade above 80 in Course 55, except with permission of instructor.
Mr. Bray

77.—Wool.—Study of structure and composition of wool. Effect of soil, feed and care on strength of fiber. Comparison of breeds with regard to wool. Examination of wool and fabrics. The judging and grading of wool samples. Study of modern methods of grading and marketing, and cost of production. Will include a trip to Colorado wool warehouses. Estimated cost, $5.00. Elective, senior year, second semester. Prerequisite, 63. One hour text, two hours laboratory, two credits.
Mr. Bray

BOTANY

W. W. ROBBINS........................Professor
H. E. VASEY....................Assistant Professor
G. E. EGGINTON.........................Instructor

101.—General Botany.—In this subject the student takes up the study of plants in the probable order of their development, beginning with the lowest and simplest forms and ending with the highest types. Thus the algae, mosses, liverworts, ferns and seed plants are studied with the idea of giving the student a general view of the main divisions of the whole plant kingdom according to their natural relationships. With the higher plants comparative studies are made of roots, stems, and buds, leaves, flowers, fruits, and seeds, from the standpoint of their morphology and ecology. Simple and compound microscopes are used and records are kept in the form of notes and drawings. Required of all students in the divisions of Agriculture and Veterinary Medicine. Three lecture hours, four laboratory hours, five credits, first semester, freshman year. Fee, $1.00.
Mr. Robbins and Mr. Vasey

Learning To Recognize Plant Diseases

101A.—General Botany.—The above course, varied by the study of economic plant products such as starches, oils, spices, extracts, grains, fibers, etc., is an alternative, required in the Division of Home Economics. Three lecture hours, four laboratory hours, five credits, second semester, freshman year. Fee, $1.00. Mr. Robbins and Mr. Vasey

102.—Agricultural Botany.—This course aims to familiarize the student with the botanical characters and origin of those plants which constitute the crops of the farm, orchard and garden. Furthermore, he is instructed in the use of keys and methods of identifying crop plants. Prerequisite, 101. Required of all students in the Division of Agriculture. Four hours attendance, two credits, second semester, freshman year. Fee, $1.00. Mr. Robbins and Mr. Vasey

103.—Plant Anatomy.—This course deals with the gross and microscopical structure of plants; morphology of the cell, cell division, tissues, and tissue systems. Prerequisite, 101. Required in courses of Agronomy, Horticulture, Entomology, and Forestry. Four hours attendance, two credits, first semester, junior year. Fee, $1.00. Mr. Vasey

104.—Plant Physiology.—This concerns itself with the fundamental activities of plants, such as absorption, transpiration, synthesis of foods, respiration, growth, reproduction, and movements. Prerequisite, 103. Required in courses of Entomology, Forestry, and Horticulture. Six hours attendance, three credits, second semester, junior year. Fee, $2.00. Mr. Robbins

105.—Experimental Plant Physiology.—Experimental study, in laboratory and greenhouses, of the activities of plants. Emphasis is placed upon the effect of environmental factors upon these activities. Reference reading and reports. Prerequisite, 104. Elective for students in the Agricultural group, six hours attendance, three credits, first semester. Fee, $2.00. Mr. Robbins

106.—Systematic Botany.—An advanced course in the study of native and introduced seed plants of the state as to their systematic relations. It is carried on by means of laboratory work and field excursions. Elective. Prerequisites, 101 and 102. Six hours attendance, three credits, second semester. Mr. Robbins

107.—Plant Pathology.—A study of the fungi which cause the diseases of the common plants of farm, orchard, and garden; includes their life histories, distribution, systematic relations, effects upon host, and control methods. The student is also given instruction in cultural methods. Laboratory work with lectures and reference reading. Prerequisite, 103. Required in courses of Agronomy, Entomology, Forestry, and Horticulture, six hours attendance, three credits, first semester, senior year. Fee, $1.00. Mr. Vasey

108.—Plant Ecology.—A study of plant associations and the individual plant organism with its various parts in relation to the environment. Detailed study is made of roots, leaves, stems, flowers, fruits and seeds as to their origin, role, and variation. Elective, three hours attendance, three credits, first semester. Reference reading and field observations. Mr. Robbins

109.—Weeds and Poisonous Plants.—Weeds and poisonous plants of western states are given primary consideration. A study of botanical characteristics as means for identification of our weeds and stock poisoning plants, and understanding their means of dispersal, harmful qualities, habits of growth, etc. Drawings and note taking. Reference reading. Required in Division of Veterinary Medicine, three hours attendance, two credits, second semester, junior year. Mr. Vasey

110.—Agrostology.—A systematic study of grasses, particularly those of western ranges, pastures, and meadows. Field and herbarium study. Reference reading. Prerequisites, 101 and 102. Elective. six hours attendance, three credits, first semester. Mr. Robbins

Freshman Botany Class in the Field

111.—Histological Technique.—A course giving the student instruction and practice in the killing, imbedding, cutting, and staining of plant tissues. Attention is directed to the staining of pathological tissues, as well as normal tissues. Prerequisites, 101 and 103. Elective, four hours attendance, two credits, second semester, junior and senior years. Text: Chamberlain's "Methods in Plant Histology." Fee, $3.00.

Mr. Robbins and Mr. Vasey

112.—Seed Testing.—Collection of weeds and weed seeds by each student; identification and mounting of weeds; identification and preparation of seed mounts; study of the characteristics of weed seeds taken up systematically; practice in the separation and identification of weed seeds found in commercial samples; study and practice of methods used in commercial seed analysis; seed laws; seed inspection. Prerequisites, 101 and 102A. Elective, four hours attendance, two credits, first semester.

Mr. Egginton

CHEMISTRY

W. P. HEADDEN	Professor
G. H. WHITEFORD	Associate Professor
C. E. VAIL	Associate Professor
R. G. GUSTAVSON	Instructor

151.—Inorganic Chemistry.—Lectures, text, and reference study of the principles of the science, covering the chemistry of non-metals and their typical and important compounds. Required in all divisions. Three hours attendance, three credits, first semester, freshman year.

Mr. Whiteford

152.—Inorganic Laboratory.—Exercises to accompany 151. Four hours attendance, two credits, first semester, freshman year. Fee, $2.00.

Mr. Whiteford and Mr. Gustavson

The Chemistry Laboratory

153.—Inorganic Chemistry.—Continuation of 151, covering the chemistry of the metals. Prerequisite, 151. Three hours attendance, three credits, second semester, freshman year. Mr. Whiteford

154.—Inorganic Chemistry.—Exercises to accompany 153. A study of typical metals, their properties, tests, and grouping; preparation, properties, and reactions of important compounds. Prerequisites, 151 and 152. Four hours attendance, two credits, second semester, freshman year. Fee, $4.00. Mr. Whiteford and Mr. Gustavson

155.—Organic Chemistry.—Lectures and text-book study of the aliphatic series. Required in divisions of Agriculture and Home Economics. Prerequisites, 151 to 154, inclusive. Three hours attendance, three credits, first semester, sophomore year. Text: Perkin & Kipping's "Organic Chemistry." Mr. Vail

156.—Organic Laboratory.—Exercises designed to familiarize the student with the preparation, properties, and reactions of typical and important compounds, including qualitative tests. Prerequisites, 151 to 154, inclusive. Accompanies 155. Four hours attendance, two credits, first semester, sophomore year. Fee, $5.00. Mr. Vail

157.—Organic Chemistry.—Continuation of 155. Lectures and text-book study of the aromatic series. Prerequisites, 151 to 155, inclusive. Three hours attendance, three credits, second semester, sophomore year. Mr. Vail

158.—Organic Laboratory.—Continuation of 156. Accompanies 157. Prerequisites, 151 to 156, inclusive. Four hours attendance, two credits, second semester, sophomore year. Fee, $5.00. Mr. Vail

159.—Qualitative Analysis.—Thoro drill in theory and practice of separation and identification of the common metals and acids. Prerequisites, 151 to 154, inclusive. Elective, ten hours attendance, five credits, first semester, junior year. Fee, $5.00. Mr. Whiteford and Mr. Gustavson

160.—Qualitative Analysis.—Continuation of 159, including blowpipe practice and analysis of complex solids. Ten hours attendance, five credits, second semester. Fee, $5.00. Mr. Whiteford and Mr. Gustavson

161.—Agricultural Chemistry.—Lectures, demonstrations, and assigned readings on the chemistry of soils and agricultural products, including discussion and study of the methods employed for their analysis. Prerequisites, 151 to 158, inclusive. Elective, two hours attendance, two credits, second semester, senior year. Mr. Vail

162.—Quantitative Analysis.—A study of the principles of quantitative analysis and the calculations of analytical chemistry. Laboratory work in gravimetric and volumetric analysis. Prerequisites, 159 and 160. Elective, first semester, two or more credits as per attendance. Fee, $5.00. Mr. Whiteford and Mr. Gustavson

163.—Quantitative Analysis.—A continuation of 162. As far as possible, the analysis will be arranged to meet the individual needs of the student. Elective, second semester, two or more credits as per attendance. Fee, $5.00. Mr. Whiteford and Mr. Gustavson

164.—Physiography.—Prerequisites, 151 to 154, inclusive. Elective, two hours attendance, two credits, first semester. Mr. Vail

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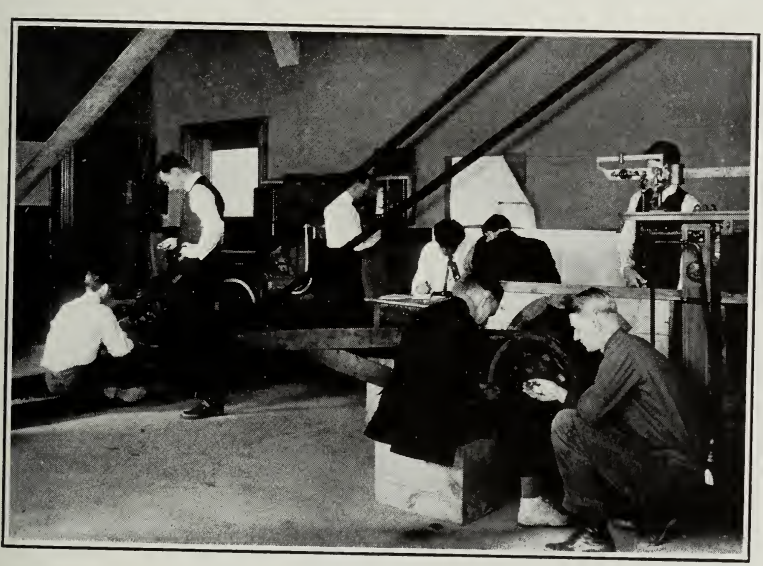
CIVIL AND IRRIGATION ENGINEERING

EDWARD B. HOUSE........................Professor
OLIVER PENNOCK ....Associate Professor

201.—Surveying.—This course covers the principles underlying the practice of surveying, including the use of chain and compass, in measuring angles and distances, a discussion of the errors that may occur, the balancing of surveys and plotting of field notes, and all other computations that may occur in the course of preparation of a complete map. Particular attention is paid to correct methods of taking field notes. Prerequisite, trigonometry. Three hours attendance, three credits, second semester, freshman year for agricultural students, and sophomore year for engineering students. Required in Divisions of Agriculture and Mechanic Arts. Text: "Hosmer & Breed," Vol. 1. Mr. Pennock

202.—Field Work.—Practice in the use of compass and level. Taken with 201. Practical problems in land surveying and mapping. Four hours attendance, two credits, second semester, freshman year for agricultural students, and sophomore year for engineering students. Required in Divisions of Agriculture and Mechanic Arts. Fee, $2.00. Mr. Pennock.

203.—Surveying.—This course is a continuation of that offered in the second semester, freshman year. It is devoted to the use of the transit and the discussion in greater detail of general and practical methods in use in special classes of survey work, topographic and hydrographic work.



Determining Curves for Power In-put for Pump Testing

Mapping a Reservoir System

The determination of the true north by means of observations on Polaris, and by means of the solar attachment is taught, as is also the investigation of the systematic errors of the transit and level and the means of correcting the same. Stadia methods are taken up, and in this as in the other lines of work it is the aim to produce quick and accurate instrument men. Prerequisites, 201, 202. Three hours attendance, three credits, first semester, junior year. Required. Text: "Hosmer & Breed," Vol. 2. Mr. Pennock

204.—Field Work.—Transit and solar work taken in connection with 203. Prerequisites, 201, 202, 203. Six hours attendance, two credits, first semester, junior year. Required. Mr. Pennock

205.—Canal Surveying.—Reconnaissance, preliminary, and location surveys; simple, compound, and transition curves; earthwork, covering the usual methods of computing volume and haul and shrinkage of earthwork; details of construction of the typical canal; covering the effect of grade and curvature on the operation of the canal and the theory of the correct balancing of these features. Prerequisites, 201, 202, 203. Two hours attendance, two credits, second semester, junior year. Text and lectures. Required. Mr. Pennock

206.—Field Work.—This course is taken with 205. A preliminary survey for a canal is made and plans and profiles drawn. From this data, the usual calculation of quantities is made, and the office location projected. This office location is then put on the ground, and cost estimates made. Prerequisites, 201, 202, 203. Three hours attendance, one credit, second semester, junior year. Required. Fee, $1.00. Mr. Pennock

207.—Field Camp.—Two weeks before the opening of college in the fall, the sophomore, junior and senior students in Civil Engineering spend two weeks in the mountains. The sophomores act as rod-men for the upper classmen; the juniors act as instrument men on the survey of a proposed reservoir or other topographic work; and the seniors have charge of the parties and are held responsible for the accuracy of the work. One credit. Required. Mr. House and Mr. Pennock

208.—Drafting.—This time is given to the plotting of the survey notes of the field camp of the previous summer. The methods of map making which have been previously studied, here receive further exposition by their practical application to problems, all details of which the student has followed from the time of the beginning of the surveys. In the case of the surveys that have to do with water rights, all the necessary forms that have to be complied with in the filing of claims are studied, and the maps are made to conform to them. Prerequisite, 207. Six hours attendance, two credits, first semester, junior year. Required. Mr. Pennock

210.—Photography.—This subject has lately become of great importance and value to the engineer, for it gives him a means of making records of works in process of construction, for taking notes in the field and often for making reconnaissance surveys. Each student is given instruction in the selection and use of a camera, in development of plates and in printing from negatives. He is required to take photographs, to develop his own plates, and to make prints from the same on different papers. Attendance one hour, one credit, first semester, junior year. Elective. Fee, $2.00. Mr. House

211.—Irrigation Engineering.—The principles of irrigation, the duty of water, the measurement of water, the location of irrigation systems, the location of diversion weirs, headgates, and flumes, design and construction of headgates, flumes, and drops, are taught. The methods of irrigation as practiced in different parts of the country are taken up, and the student is given a thorough understanding of the methods of location of an irrigation system and its proper management. Prerequisite, 201. Three hours attendance, three credits, second semester, junior year. Text: Wilson's "Irrigation Engineering," supplemented by lectures. Required. Mr. House

212.—Hydraulics.—A thorough course in theoretical hydraulics as presented by modern authors. Prerequisite, Integral Calculus. Five hours attendance, five credits, second semester, junior year. Required. Text: Merriam's "Theoretical Hydraulics." Mr. House

213.—Hydraulic Laboratory.—The use of meters for measuring the velocity of water in streams and experimental determination of the constants for different hydraulic formulas together with the testing of water motors and pumps of all kinds. Four hours attendance, two credits, second semester, junior year. Taken with 212. Required. Mr. House

214.—Meteorology.—A study of the movements of the atmosphere, the formation, progress and prediction of storms, together with the climate of different countries. Methods of taking meteorological observations, the keeping of records and interpretation of the same are taken up. One hour attendance, one credit, second semester, senior year. Elective. Text: Milhanis' "Meteorology." Mr. House

215.—Canal Management.—This course is intended to give the student knowledge of the problems and duties, and is intended to qualify the students technically for taking part in administration of ditches and the distribution of water when acting as water commissioners or canal superintendents. One hour attendance, one credit, second semester, senior year. Prerequisites, 211 and 212. Text and lectures. Elective.
Mr. House

216.—Water Supply.—This course treats of the method of procuring an ample supply of water for irrigation and domestic purposes. The source of supply, the manner of conveying, storing and distributing the water. Prerequisites, 211 and 212. Two hours attendance, two credits, first semester, senior year. Text. Elective. Mr. House

217.—Drainage.—An investigation of alkalied and seeped lands, the cause and remedy for this condition; an investigation of different drainage systems and the proper installation and operation of the same. Two hours attendance, two credits, second semester, senior year. Prerequisites, 211 and 212. Elective. Mr. House

218.—Dams.—The principle of stability of dams, the methods of dam construction, and the materials to be used. The selection of the proper site for the dam and all the necessary work of design, location, and construction are treated at length. Prerequisites, 211 and 212. Three hours attendance, two credits, second semester, senior year. Text and lectures. Required. Mr. House

219.—Strength of Materials.—This course is the application of the principles of mechanics to the investigation of the stress in and strength of the various materials used in construction. The laws of stress in simple, cantilever, and continuous beams, in materials in direct tension of compression, and in columns and struts, are investigated. Torsion in shafts, stresses in pipes under pressure, strength of riveted joints, simple and combined stresses, temperature stresses, laws of elasticity, resiliance in work, are treated. Numerous problems illustrate the practical application of theoretic truths and laws. The general characteristics of the principal materials, wood, iron, cement, concrete, and steel are discussed. Prerequisites, physics and integral calculus. Five hours attendance, five credits, first semester, junior year. Text: Merriam's "Mechanics of Materials." Required in Division of Engineering. Mr. Pennock

220.—Testing Laboratory.—Taken with 219. Actual tests of the tensile and compressive strengths of specimens are made on a 50,000-pound testing machine. Flexural tests are made and data are obtained for computing the Modulus of Elasticity of the tested material. A discussion of the materials of engineering is included. Required, two hours attendance, one credit, first semester, junior year. Fee, $1.00. Mr. Pennock

221.—Trusses and Bridges.—In this course the methods of computation of the stresses on roof and bridge trusses are applied. The common forms of trusses, such as the Howe, Pratt-Warren, Baltimore, Bowstring, and Parker are investigated under the dead and live loads and the stresses in different members are figured. Live load stresses are figured for both uniform load and concentrated axle loads. Prerequisites, 219, 220. Four hours attendance, four credits, first semester, senior year. Mr. Pennock

222.—Concrete.—Under this head, the whole subject of concrete and concrete construction is investigated. The materials used, the proper proportions, the correct manner of mixing, reinforcing and placing, all receive careful attention. Concrete structures of all kinds are carefully considered. Prerequisite, 219. Two hours attendance, two credits, second semester, senior year. Required. Text: Taylor & Thompson's "Concrete."

Mr. House

223.—Engineering Design.—The student is required to select, either from his own ideas, or with the advice and assistance of the professor, some engineering project, to design the same, and submit working drawings for it. Prerequisites, 212 and 219. Ten hours attendance, three credits, first semester, senior year. Lectures and drafting. Required.

Mr. House

224 and 303A.—Contracts and Specifications.—The part that engineers are frequently called upon to play in making contracts and writing specifications makes this subject necessary. In this course the student is taught the essential elements in the writing of contracts and specifications. Two hours attendance, two credits, first semester, senior year. Required. Text: Johnson's "Contracts and Specifications."

Mr. Davis and Mr. House

225.—Highway Construction.—This deals with the methods of modern road construction. Special attention is given to earth roads, their location, drainage, and repair. Two hours attendance, two credits, second semester, senior year. Required. Text: Frost's "Art of Road Making."

Mr. House

226, 227, 228, 229.—Seminar.—Seminar work is given in the last two years of the course and consists in the preparation of papers on engineering problems and on the construction of engineering works. These papers are read before the class and discussed. The object of the work is to encourage as much outside reading as possible, and to make the student conversant with the engineering feats of the present day. Elective. One hour attendance, one credit each semester.

Mr. House and Mr. Pennock

230.—Thesis.—In the senior year, a suitable thesis is prepared upon some engineering project. Elective. Second semester, senior year, two credits. For seniors only.

Mr. House

231.—Irrigation Laboratory.—This work takes up the testing of different irrigation structures such as flumes, pipes, headgates, pumps, etc. First semester, senior year, four hours attendance, two credits. Preriquisites, 211 and 212. Elective. Fee, $1.00.

Mr. House

232.—Irrigation Laboratory.—This subject consists of advanced work in the irrigation laboratory and irrigation work in the field. Prerequisite, 213. Four hours attendance, two credits, second semester, senior year. Fee, $1.00.

Mr. House

233.—Graphic Statics.—This is taken up with 221 Roofs and Bridges, and treats of the elementary principles of equilibrium of forces and also the graphical determination of center of gravity and moment of inertia. The graphical solution of the stresses in simple roof trusses and bridges. Prerequisites, 219 and 221. One hour attendance, one credit, second semester, senior year. Elective. Text: "Merriam & Jacoby, Part II." Mr. Pennock

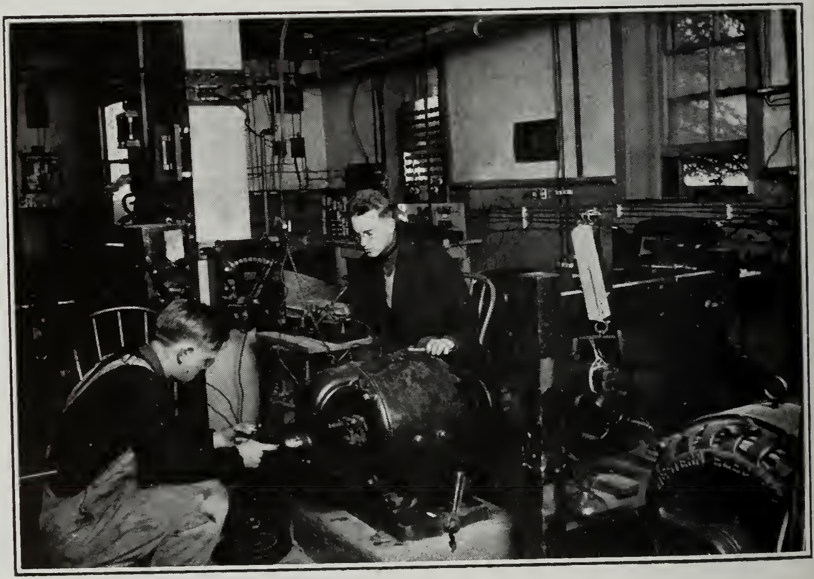
ELECTRICAL ENGINEERING

FRED G. PERSON	Head of Department
WILLIAM S. ALDRICH	Associate Professor
L. S. FOLTZ	Associate Professor

251.—Dynamos and Motors.—A study of the elements of electricity; construction and operation of alternating and direct current dynamos and motors. For non-electrical engineering students. Required in Mechanical Engineering. First semester, senior year, three hours attendance, three credits. Mr. Foltz

252.—Laboratory for Course 251.—Testing of dynamos and motors. Required in Mechanical Engineering course, first semester, senior year, four hours attendance, two credits. Fee, $2.00. Mr. Foltz

253.—Direct Currents.—The construction and operation of direct current apparatus and machinery. Required in junior year, first semester, two hours attendance, two credits. Text: "Elements of Electricity for Technical Students," by Timbie and Higbie. Mr. Aldrich



Making a Dynamometer Test

254.—Electrical Machinery.—Continuation of Course 253 and beginning of alternating currents. Second semester, three hours attendance, three credits.
Mr. Foltz

255.—Electrical Laboratory.—Taken with Course 254. Required in electrical engineering group, second semester, junior year, ten hours attendance, five credits. Text: "Wiley Technical Series." Fee, $3.00.
Mr. Foltz

256.—Electric Light and Photometry.—A study of lamps and distribution systems; measurement of candle power, etc. Elective, second semester; junior year, three hours attendance, three credits. Texts: "Electrical Engineers' Handbooks."
Mr. Aldrich

257.—Telephony.—Lectures and recitations on the theory and practice of the modern telephone. Elective, first or second semester, senior or junior students eligible, two hours attendance, two credits. Text: "Telephony," McMeen and Miller. **(This course will not be given both semesters, but given either semester as desired.)**
Mr. Foltz

258.—Laboratory for Course 257.—Elective, first or second semester, four hours attendance, two credits. (See Course 257.) Fee, $2.00.
Mr. Foltz

259.—Alternating Currents.—Theoretical consideration of alternating current circuits and the main types of alternating current machinery. Required in Electrical Engineering course, first semester, senior year, five hours attendance, five credits. Text: "Alternating Current Electricity," Timbie and Higbie.
Mr. Aldrich

260.—Laboratory Course for 259.—Required in Electrical Engineering course, senior year, first semester, ten hours attendance, five credits. Text: "Direct and Alternating Current Machinery," Bedell. Fee, $3.00.
Mr. Aldrich

261.—Continuation of Alternating Currents, Course 259.—Required in Electrical Engineering course, second semester, senior year, two hours attendance, two credits.
Mr. Aldrich

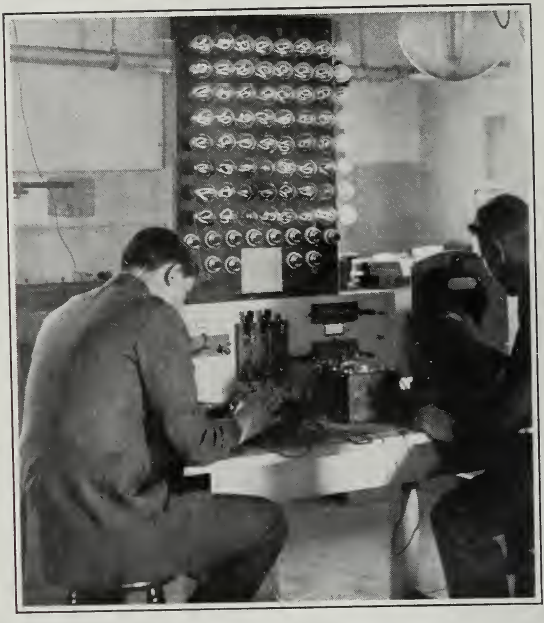
262.—Continuation of Laboratory Course 260.—Required in Electrical Engineering course, second semester, senior year, ten hours attendance, five credits. Fee, $3.00.
Mr. Aldrich

263.—Study of Modern Electric Railway Systems.—Direct and alternating current. Elective, senior year, first semester, three hours attendance, three credits. Text: "American Street Railway," by Herrick and Boynton.
Mr. Foltz

264.—Design of Electrical Machinery and Apparatus.—A course in designing electrical machinery, including direct current dynamos and motors, alternating current dynamos and motors and transformers. Elective, first semester, senior year, six hours attendance, three credits. Text: "Electrical Machine Design," Gray.
Mr. Aldrich

265.—A Continuation of 264.—Elective, senior year, second semester, four hours attendance, two credits.
Mr. Aldrich

266.—Seminar.—Discussion of current electrical engineering topics as treated in the technical journals. Elective, first semester, senior year, one hour attendance, one credit.
Mr. Foltz



Investigating an Imaginary Consumer's Complaint—Testing Meters

267.—Seminar.—A continuation of 266. Required, second semester, senior year, one hour attendance, one credit. Mr. Foltz

268.—Hydro-Electric Plants.—A study of the construction, operation and maintenance of hydro-electric plants. Elective, second semester, senior year, two hours attendance, two credits. Mr. Aldrich

269-270.—Thesis.—Experimental investigations in electrical engineering fields. Elective, senior year, each semester. Mr. Aldrich

271.—Electrical Power Transmission.—A study of transmission lines, development, construction, operation, and maintenance. Required in Electrical Engineering course, senior year, second semester, two hours attendance, two credits. Mr. Aldrich

DEPARTMENT OF ENGLISH AND HISTORY

B. F. COEN	Professor
VIRGINIA H. CORBETT	Associate Professor
C. F. DAVIS	Associate Professor
ALFRED WESTFALL	Assistant Professor
HARRIET SHIPLEY	Instructor
MABEL HODDLE	Instructor
RUTH WATTLES	Instructor
*LOUISA HOLDERER	Assistant
MABEL HOYT	Assistant

301.—Economics.—Treats of topics of practical interest and importance to all who are engaged in productive industries; markets, transportation, labor, capital; money standards and the currency, banks and banking, taxation and public expenditures. Partially from the text and partially by lectures. Required in course of Agronomy, first semester, senior year, two hours attendance, two credits, and in Engineering Divisions, three hours, three credits. Texts: Ely's "Political Economy" and Carver's "Rural Economics."
Mr. Davis

302.—Rural Sociology.—An application of sociological principles to the problems of country life. Emphasis given to the educational, recreational, religious, sanitary, moral, and social conditions of the country. A study of the village, and the drift of the rural population to the city. Required of Home Economics students, and of all others who expect to teach or to do extension work. Five hours attendance, five credits, each semester, junior year.
Mr. Coen and Mr. Davis

303.—Irrigation Law.—A study of the history, growth, and development of irrigation statutes in all states where the artificial use of water is necessary for the production of crops. Special attention is given to the controlling opinions of the supreme courts of Colorado and of the United States. Required of students in Agronomy, Animal Husbandry, Entomology, and Irrigation Engineering. Students below junior standing may not elect this subject except by special permission of head of department. Two hours attendance, two credits, second semester, senior year.
Mr. Davis

303A.—Commercial Law.—The nature of law, and the sources from which the laws in this country have been derived. The fundamental principles of jurisprudence upon which rest the common transactions of business. The law of negotiable instruments, real property, business associations, agency, and chattel mortgages. Lectures and readings. Elective for juniors and seniors, two hours attendance, two credits, first semester. First half of course required of Irrigation Engineering seniors. Mr. Davis

305.—Medical Jurisprudence.—A course of lectures on the law governing the practice of Veterinary Medicine, and the laws and regulations—state and national—governing the transportation of live stock. Required in the Division of Veterinary Medicine, first semester, senior year, one hour attendance, one credit.
Mr. Davis

306.—Constitution of the United States.—Instruction is given concerning the events and causes which led to the formation of the national government as it exists today, and the same traced to their historic sources. The workings of the federal government, together with its relations to the states, are also amply illustrated by frequent class lectures. Such information is due at the hands of every institution maintained by state or national aid as tending to better fit its graduates for the duties of citizenship, and for the responsibilities of a republican form of government, which rest with especial weight upon those who have received their education free at the hands of the state or nation. About one-third the time will be given to problems of international law. Required in the Division of Mechanic Arts, three hours attendance, three credits, first semester, sophomore year. Text: Young's "The American Government and Its Work." Mr. Davis

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*Resigned.

307.—Industrial History.—The development of the complex industrial life of today. The course includes a review of industrial conditions in primitive England, of the days of the English manor, follows the changes which produced the guild organizations, the domestic system of industries in the United States, the changes resulting from the factory system, and the consequent labor conditions. Elective, first semester, three hours attendance, three credits. Text: "Industrial History of the United States," by Coman, supplemented by library reference work, and first hand study of some phase of industrial life by each member of the class.

Miss Corbett

308.—European History.—A study of European history from the earliest times down to the beginning of cabinet government in England. Social, economic, industrial, and political development of the nations. This course has in mind the needs of students who expect to teach. Alterna-

The Academic Procession on Commencement Day tive, required in the Home Economics course, elective in other courses. Two hours attendance, two credits, first semester, senior year. (Given in odd years.)

Mr. Davis

309.—European History.—Continuation of 308.—Two hours attendance, two credits, second semester, senior year. Mr. Davis

310.—Modern Europe.—A study of Europe from the beginning of cabinet government in England down to the present. Considerable time is given to the history of the last few years. This course has in mind the needs of students who expect to teach. Alternative, required in the Home Economics course, three hours attendance, three credits, second semester, sophomore year.

Mr. Davis

310A.—English.—A rapid review of the essentials of high school English with special emphasis upon grammar, punctuation, spelling, and sentence structure. Required of freshmen who are not prepared to take English 311. Three hours attendance, three credits, first semester.

311.—English.—Study of the principles of rhetoric. Elements of effective writing in prose based upon the study of selected authors. Analysis of modern prose. Much time is devoted to composition, written and oral. One long theme, 75 to 150 pages, is written during the year. The student must work out very complete plans, must become well acquainted with the library, and must learn to distinguish between the essential and non-essential in books and magazines. Required of freshmen in Agriculture, Home Economics, and Veterinary Medicine and of sophomores in Engineering. First semester, three hours attendance, three credits. Texts: Bates' "Talks on Writing English," (first series), Woolley's "Handbook of Composition," and Young's "Freshman English."

Mr. Coen, Mr. Westfall, Miss Shipley, Miss Hoddle, and Mr. Avery

312.—Continuation of English 311.—Second semester, three hours attendance, three credits.

Mr. Coen, Mr. Westfall, Miss Shipley, Miss Hoddle, and Mr. Avery

313.—Argumentation.—Time is given to practice in argumentation and debate. Freshman English, prerequisite. Required of sophomores in the Agricultural division and in the Home Economics course, first semester, two hours attendance, two credits. Elective in other courses. Text: Foster's "Argumentation and Debating."

Mr. Coen and Mr. Westfall

314.—Argumentation.—Continuation of 313, Argumentation. Second semester, two hours attendance, two credits. Text: Phillips' "Effective Speaking."

Mr. Coen and Mr. Westfall

315, 316.—Journalistic Writing.—A practical study designed to fit students for writing for publication along the line of their major training. The construction of the newspaper story, and the trained newspaper writer's method of arraying facts are studied. Typical newspaper stories are read and criticised. Much practice is given in writing for newspapers, some of the stories produced being published in the Denver and Fort Collins papers and in The Collegian. The popular article upon a technical subject is carefully studied, including presentation of facts, methods

High School Students From All Over Northern Colorado Come to the College on High School Field Day

of making popular and readable, and preparation of illustrations. Leading agricultural papers are reviewed. Practice is given in writing such articles, to fit students for writing for agricultural papers. At the close of the semester each student writes a popular story upon a technical subject, which is offered for sale. Elective, two hours attendance, two credits, junior or senior years, each semester.

Mr. Coen, Mr. Westfall and Mr. Crosman

317.—Development of Modern English.—This course aims to show something of the development of the English language, taking up inflection, sounds, words, and grammar. Freshman English, prerequisite. Three hours attendance, three credits, second semester. Elective. Mr. Coen

318.—English Literature.—A course in literature arranged for technical students. The general purpose of this course is to arouse an interest in good books, to develop the ability to judge their literary value, and to stimulate a desire for more knowledge of literature. One aim of the course is to familiarize the student with the arrangement and use of the college library, and to supply a working knowledge of its equipment, which may guide his reading during the college course and later. Required in courses in Home Economics and Agriculture, freshman year, and in courses in Engineering, sophomore year, first semester, two hours attendance, two credits. Miss Corbett, Miss Shipley, Miss Hoddle

319.—Continuation of 318.—Two hours attendance, two credits, second semester, freshman year.

Miss Corbett, Miss Shipley, Miss Hoddle

320.—The Drama.—Lectures are given on the principles of dramatic art, with particular attention to character study, plot development, and the contrast between ancient classics and modern romantic drama. Illustrative readings are used in class, several plays of Shakespeare being studied as models of dramatic art. Prerequisite, freshman English. Elective, two hours attendance, two credits, first semester. Miss Shipley

321.—American Literature.—A study of the literary periods in our country, from colonial times to the present. Selections from the prominent American writers are chosen for class study, and additional library readings with reports are expected. Elective, second semester, junior year, two hours attendance, two credits, freshman English, prerequisite. May not be elected by students below junior standing except by permission of the head of the department. Miss Shipley

322.—Advanced Course in English Literature.—Masterpieces from the poets of the seventeenth, eighteenth, and nineteenth centuries form the basis for class study. Collateral readings with reports are expected. Required in Home Economics course, first semester, senior year, three hours attendance, three credits. Miss Corbett

323.—English Literature.—This is a continuation of 322. Special study is given to English prose forms. The works of the essayists and critics are followed by a study of English and American fiction. The novel is considered. Its structure and place in literature, and its service as a laboratory for character study are subjects for lectures. Special study is made of the short story. Required in course in Home Economics, five hours attendance, five credits, second semester, senior year. Miss Corbett

324.—American History.—A general course in American History from the discovery of America down to the present. Quite a large part of the time is spent upon recent events. This course has in mind the requirements of students who expect to teach. Alternative, required in the Home Economics course, two hours attendance, two credits, first semester, senior year. (Given in even years.) Mr. Davis

325.—American History.—Continuation of 324. Two hours attendance, two credits, second semester, senior year. Mr. Davis

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ENTOMOLOGY AND ZOOLOGY

CLARENCE P. GILLETTE	Professor
S. ARTHUR JOHNSON	Associate Professor
CHAS. R. JONES	Associate Professor
ELIZABETH ROBINSON	Instructor
W. L. BURNETT	Curator

351.—Physiology.—Required in Agricultural Division second semester, Home Economics, first semester. Three hours attendance, three credits, freshman year. Text: "The Human Mechanism," Hough and Sedgwick. Miss Robinson

352.—Zoology.—Required of the Agricultural Group and those in Veterinary Medicine, alternative with mathematics in Home Economics. First semester, sophomore year, three hours attendance, three credits. Text: "Introduction to Zoology," by Hegner. Mr. Johnson

353.—Elementary Entomology.—Required of students in Entomology, Horticulture, and Forestry. A study of the structure, habits and classification of the insect kingdom. Special attention is given to the habits of the more injurious species and the remedies that may be used to destroy them or prevent their depredations; field excursions for observing insects under natural conditions, and classification and mounting of insects for permanent preservation. Over 100,000 mounted specimens of insects are in the college collection. First semester, junior year, three hours class, three credits, and four hours laboratory, two credits. Text: "Elementary Entomology," by Sanderson and Jackson.

Mr. Johnson and Mr. Jones

Studying Insects In Their Native Habitat

353A.—Elementary Entomology.—Continuation of 353. Required in course in Entomology, second semester, junior year, three credits. Text: "Agricultural Entomology," Osborn. Mr. Johnson and Mr. Jones

354.—Embryology.—Required in the divisions of Agriculture and Veterinary Medicine. Study of the early stages in development, the general principles underlying the development of organic beings, and the laws of inheritance. Many references to outside reading will be given. First semester of the senior year. Two hours attendance for one-half semester, one credit. Mr. Gillette

355.—Forest Insects.—A series of lectures on insects injurious to forest trees. Required in the Entomology course, second semester, senior year. Two hours attendance, one credit. Mr. Jones

356.—Advanced Entomology.—Required in the Entomology course, first semester, senior year, ten hours attendance, five credits. Text: Comstock's "Manual for the Study of Insects." Mr. Gillette and Mr. Jones

357.—Advanced Entomology.—Continuation of 356, with the addition of "Fruit Insects," Slingerland and Crosby, and the preparation of a thesis on original work with the life history of some insect and two minor papers, one on entomological literature and one on insect bibliography. Second semester, senior year, ten hours attendance, five credits.

Mr. Gillette and Mr. Jones

358.—Ornithology.—A brief course in popular study of birds with their economic relations. Two hours attendance, two credits, second semester. Elective. Text: "Bird Life," by Chapman. Mr. Johnson

359.—Zoology Laboratory.—Stress is laid upon the structure, habits, and relationships of the different groups of the animal kingdom. Definiteness and accuracy of observation required. Required of students in the divisions of Agriculture and Veterinary Medicine. Four hours attendance, one and one-third credits, first semester, sophomore year. Fee, $1.00. Mr. Jones and Miss Robinson

361.—Genetics.—Two lectures a week during half the first semester of the senior year, dealing with the broad principles of development, the laws of heredity, and the application of these laws to the improvement of living things. Required in the divisions of Agriculture and Veterinary Medicine, two hours attendance, two credits. Mr. Gillette

362.—Eugenics.—A course of eighteen lectures offered to woman students in the upper classes. Relates to the most recent discoveries in human heredity and the application of the laws of heredity to human progress. Elective, one hour attendance, one credit, first semester.

Mr. Gillette

363.—Biological Entomology.—A course in the biological aspects of entomology. Three recitation and two laboratory periods each week, five credits, second semester, elective. Text: "Entomology in its Biological and Economic Aspects," by Folsom. Mr. Johnson

364.—Insecticides and Fungicides.—A course in the preparation and use of insecticides and fungicides in common use for the control of insect pests and plant diseases. Required in the courses in Entomology and Horticulture, junior year, second semester, three hours attendance, two credits. Mr. Sandsten and Mr. List

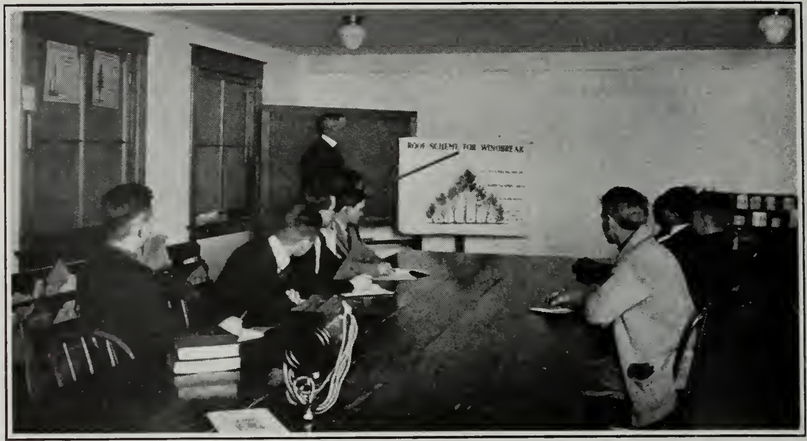
365.—Personal Hygiene.—The principles and preservation of health; the causes and preventatives for prevailing ills. Physiology and Personal Hygiene are offered as an alternative with mathematics. Alternative in Home Economics course, two hours attendance, two credits, first semester, freshman year. Text: Brady's "Personal Health." Miss Robinson

FORESTRY

WALTER J. MORRILL........................
........Professor of Forestry and State Forester
BURTON O. LONGYEAR........................
..................Associate Professor of Forestry

401.—Elements of Forestry.—A general survey of forestry simply presented in order that forestry students may coordinate the succeeding courses, and that other students may elect the course to gain general knowledge of the subject. Forestry defined and explained; need of forestry; history of conservation movement in the United States; the tree and its requirements; the forest and its influences; establishment and care of forests; forest protection, estimating timber; lumbering and wood utilization, wood preservation; forest finance; description of forest regions; identification of common Colorado trees and wood. Two hours attendance, two credits, first semester. Text: "Elements of Forestry," by Moon and Brown. Mr. Morrill

402.—Farm Forestry.—Planned specially for agricultural students. Value of windbreaks; farm groves; identification of common trees and wood; valuing or estimating trees singly and in stands; establishing and



Studying Windbreaks

tending windbreaks, groves; treatment and protection of wild timber lands; preservation of fence posts; ornamentation of the door-yard and school yard. Two hours attendance, and an occasional field trip by special arrangement, two hours credit, second semester. Text: Ferguson's "Farm Forestry." Mr. Morrill

403.—Dendrology.—Systematic tree botany, or dendrology, to familiarize students with all of the commercial trees of the United States, and with many of minor importance. Points of comparison, and identification; ecology of trees, their commercial uses, planting and tending for ornamental and commercial purposes. Four hours attendance, two hours laboratory or field, three credits, first semester. Lectures and assigned reading, reports, local field excursions, and laboratory work on herbarium specimens. No text. Mr. Longyear

404.—Dendrology.—Continuation of 403, which is a prerequisite. Four hours attendance, two hours laboratory or field, three credits, second semester. Mr. Longyear

405.—Silvics.—Anatomy and physiology of the tree. Development of the tree in height, diameter, volume, and form; forest ecology, types, forest regions, silvical characteristics, forest influences on climate, run-off; value of windbreaks. Lectures, assigned reading, reports, field excursions. Three hours attendance, three credits, first semester.
Mr. Longyear

406.—Silviculture.—Objects of silviculture; silviculture systems; thinnings; silvicultural working plans; forest nursery; tree planting in Colorado; visiting commercial nurseries; practical work in College nursery; preparation of silvicultural working plans in College forest. Lectures, assigned reading, reports. Three hours attendance, three credits, second semester. Text: Graves' "Principles of Handling Woodlands," and Toumey's "Seeding and Planting." Mr. Longyear

407.—Forest Mensuration.—Units employed. Construction of log rules. Methods of determining volume, age, and increment of trees singly and in stands. Construction of volume tables, growth tables, yield tables; practice in graphic representation of data. Field practice in estimating timber and in securing stem analyses. Further application of this course will be made in Course 412. Five hours attendance, three credits, second semester. Texts: "Forest Mensuration," Graves, and "Exercises in Forest Mensuration," Winkenwerder and Clark. Mr. Morrill

408.—Forest Engineering.—Discussion of construction of forest telephone lines, roads and trails, fire lines, lookout stations, cabins, barns, fences, bridges, flumes, trams, slides, splash dams, logging railroads. Topographic surveying with traverse board and Abney hand level, field practice, maps. Lectures, assigned reading, and small amount of field work by arrangement. Elective, two hours attendance, two credits, second semester. Mr. Morrill

409.—Forest Utilization.—Utilization of minor forest products, including fuel, fencing, poles, piling, ship lumber, railroad ties, cooperage stock, paving material, veneer, pulp wood, tan bark, products of wood distillation, naval stores, wood preservation. Two hours attendance, two credits, second semester. Lectures, assigned reading, and reports.

Mr. Longyear

410.—Logging.—Logging and lumbering. Woods' labor conditions; logging camps, tools and equipment; felling and log-making; log transportation, animals, power skidding, trams, slides, railroads, rafting and floating; costs and methods of logging in various forest regions. Sawmills, grading, seasoning; lumber markets, retail yards. Three hours attend-

Office of State Forester and Professor of Forestry

ance, three credits, second semester. Text: "Logging," by Bryant. Lectures. Mr. Morrill

411.—Lumbering Report.—A week's inspection of logging camps, either with or without the instructor, and a full report following a prescribed syllabus, covering methods of logging employed, costs, plan of camps. One credit, first semester, senior year. Mr. Morrill

412.—Fall Camp.—During six weeks prior to the opening of the first semester, the seniors will camp in Pingree Park at the Forest Lodge to apply in field work the principles taught in Silviculture and Forest Mensuration. Elective, six credits. Mr. Morrill

413.—Forest Organization.—Relation of forest management to silviculture; forest rotation from various points of view; the normal forest; methods for accomplishing sustained yield. Forest organization and administration. Forest working plans. Three hours attendance, three credits, first semester. Text: Roth's "Forest Regulation." Mr. Morrill

414.—Forest Finance.—Values; outlay and income, compound interest as applied in forest valuation; investments and costs in forest production; valuation of forests, forest statics; appraisal of damages; forest taxation; stumpage values; future values; risks; comparison of forest values with agricultural values. Three hours attendance, three credits, second semester. Text: "Forest Valuation," Roth.

415.—Forestry Seminar or Problems.—Either a definite problem for research work will be assigned, or a seminar will be held to study special forestry subjects not mentioned in course of study, such as forest law, woodcraft, first aid, camp sanitation, horse packing, review for preparation to take Civil Service examinations. Two hours attendance, two credits, first semester, senior year. Mr. Morrill and Mr. Longyear

416.—Continuation of 415.—Two credits, second semester.
Mr. Morrill and Mr. Longyear

417.—History of Forestry.—Fourteen lectures and quizzes covering briefly the development of forestry practices in Europe and America. One hour attendance, one credit, first semester. Text: "History of Forestry," by Fernow. Mr. Morrill

418.—Forest Policy and Administration of National Forests.—State and federal forest and land laws. Forest Service regulations and administration of national forests. State versus private timber holdings; forest taxation; state and private co-operation in fire protection. Two hours attendance, two credits, second semester. Lectures and assigned reading.
Mr. H. N. Wheeler, Forest Supervisor, and Mr. Longyear

419.—Wood Technology.—Structure of important woods; hardness, color, odor, grain, texture, density, and characteristic arrangement of wood cells studied in relation to identification and economic value. Mechanical properties of wood; laboratory practice in bending, compression, shearing, torsion tests; relation of knots, moisture, and structure of wood to strength. Five hours attendance, three credits, first semester. Texts: "Economic Woods of the United States," by Record; "Mechanical Properties of Wood," by Record. Mr. Longyear

420.—Forest Protection.—Causes of forest fires and damages arising from them, methods of prevention and control; fire fighting equipment; fire plans; permanent improvement for fire protection; organization and administration. Insect devastation and control. Climatic damages to trees. Fungi and other pests. Two hours attendance, occasional field trips, two credits, second semester. Lectures. Mr. Morrill

422.—Grazing.—A consideration of livestock problems of the western ranges; forage grasses and their relative values; regeneration of depleted lands; permanent improvements on the range, and grazing administration. Prerequisite, 110. Two hours attendance, two credits. Lectures, required reading, and seminar. Mr. Morrill

423.—Spring Camp.—Field work at Pingree Park, applying principles in courses 408, 413, 414, and 420. A portion of a working plan for a tract of timber will be prepared from the data obtained and from data obtained by previous classes. Two weeks. One hour credit, as part of time will be given to other courses for which credit is given; or two hours if course is given after close of second semester. Elective. Mr. Morrill

HOME ECONOMICS

INGA M. K. ALLISON	Professor
CHARLOTTE E. CARPENTER	Associate Professor
MIRIAM M. HAYNES	Extension
EVELYN G. HALLIDAY	Research
H. MAGDALENE HAHN	Instructor
BERYL DIXON	Instructor
NELLIE KILLGORE	Instructor
LOUISE F. LACEY	Instructor
MARJORIE SHUTT	Assistant
MRS. GRACE F. ANDERSON	Assistant
EDITH BURTON	Assistant

451.—The House.—The site, surroundings, and construction of the house; house plans suited to typical community conditions, the farm house. Practice in drawing floor plans. The ventilation, heating and lighting of the house; the water supply; the disposal of wastes; the relation of the householder to health organizations. Lectures, recitations, laboratory practice. Required of Home Economics students, five hours attendance, five credits, first semester, senior year. Miss Killgore

452.—The House (Continued).—Sanitary, economic and aesthetic considerations in the selection of house furnishings. Period furniture in relation to present day requirements. The care of the house; the household budget and the purchase of supplies. Practical work in house management offered in connection with boarding clubs under the direction of the department. The home as a social center. Lectures, class discussions, collateral reading. Prerequisite, 451 The House. Required of Home Economics students, five hours attendance, five credits, second semester, senior year. Miss Killgore

454.—Home Nursing.—Includes the study of what to do in emergencies; the care of the sick, and the general care of the sickroom. Lectures and practical demonstrations. Prerequisite, Bacteriology. Required

of Home Economics students, two hours attendance, two credits, second semester, junior year. Textbook: "Practical Nursing," Maxwell and Pope.
Mrs. Anderson

455.—Foods I.—This course is intended as a preparation for later courses in foods, introducing the student to processes involved in cookery. Emphasis is placed on manual dexterity. Economy of labor through thoughtful use of utensils together with speed and quiet will characterize the work. Cookery is limited to the preparation of simple dishes, with special stress on seasoning, flavor, and attractiveness. Required of all Home Economics students not presenting entrance credits in domestic science. Four hours attendance, two credits, second semester, freshman year. Fee, $3.00. Laboratory manual outlined by the department.
Miss Lacey

456.—Foods II.—This course serves as a basis for all later work in foods. Composition and characteristics of food stuffs; underlying principle in methods by which heat is applied to food stuffs; consideration of uses and relative values of various types of cooking apparatus; selection of foods; significance of terms "brands" and "blends." Required of Home Economics students. Prerequisite, or accompanying subjects, 151-154, Inorganic Chemistry. Six hours attendance, three credits, first semester, sophomore year. Fee, $3.00. Text: "Food Products," Sherman.
Miss Hahn

457.—Foods III.—Continuation of Foods II. A special feature of Foods III is extensive work in meat cookery. Dressing carcasses and the curing of meats will constitute an important phase of the work. Four hours attendance, two credits, second semester, sophomore year. Fee, $3.00.
Miss Hahn

458.—Foods IV.—The further development of principles and methods outlined in Foods II and Foods III. Food preservation; pure food

The Spirit of Conservation Prevails in the Cooking Laboratory

Learning to Give First Aid in the Home

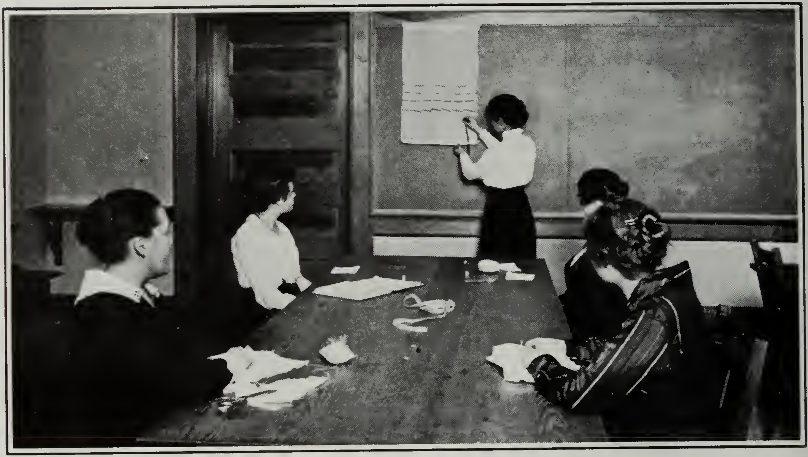
laws. Extensive work with flour mixtures, including bread, cakes, and pastry. Required of Home Economics students electing the Domestic Science course. Prerequisite, Foods III. Preceded or accompanied by 155-158 Organic Chemistry. Eight hours attendance, four credits, first semester, junior year. Fee, $5.00. Laboratory manual outlined by the department.
Miss Lacey

459.—Dietetics.—Includes a consideration of dietary standards; balanced ration; relation of food to health; special consideration of the adjustment of quantity and quality of food necessary to the meeting of the varying conditions of age, occupation, health, etc. Prerequisites, Foods IV and Organic Chemistry. Required of Home Economics students electing Domestic Science. Four hours attendance, two credits, second semester, junior year. Texts: "Chemistry of Food and Nutrition," by Sherman, and Jordan's "Principles of Human Nutrition."
Miss Allison

460.—Serving of Meals.—This course provides for the application of principles developed in courses of foods, including the cooking and serving of meals, and the preparation of school and picnic lunches. Wholesomeness of food served, attractive serving, and the estimate of cost of food prepared, are invariable features of the work. Prerequisites, Foods IV and Dietetics. Required of Home Economics students electing Domestic Science. Six hours attendance, three credits, second semester, senior year. Fee, $4.00. Laboratory manual outlined by the department. Text: "Feeding the Family," Rose.
Miss Lacey

461.—Problems in Dietary Calculation.—An advanced course in dietetics to be carried on as a laboratory course. Prerequisite, 459. Elective, four hours attendance, two credits, first semester, senior year. Fee, $2.00. Laboratory manual, "A Laboratory Handbook of Dietetics," Mary Swarts Rose.
Miss Allison and Miss Hahn

462.—Field Rations and Camp Cookery.—The selection and preparation of food supplies especially suited to camping conditions. Offered to men. Four hours attendance, two credits, second semester. Fee, $3.00.
Miss Allison and Miss Hahn



A Demonstration in Hand Sewing Stitches

463.—Sewing I.—A study of the principles underlying correct position and methods of working, the tools, the equipment, and the subject-matter best suited to elementary and secondary schools. The course also aims to secure increased accuracy, speed, independence, and capability in hand sewing. Required of all Home Economics students. Six hours attendance, three credits, first semester, freshman year. Fee, $1.00.
Miss Dixon

464.—Sewing II.—The approach is the same as that indicated under Sewing I. The use of the machine in the fashioning of muslin garments. Prerequisite, Sewing I. Required of Home Economics students, four hours attendance, two credits, second semester, sophomore year. Fee, $1.00.
Miss Dixon

465.—Textiles I.—Study of historical development of textile industries; weaves and weaving; household, microscopic, and chemical tests for characteristics of textile fibres. The adulteration of fabrics. Prerequisites, Sewing I and II. Preceded or accompanied by Organic Chemistry. Required of Home Economics students electing Domestic Arts, four hours attendance, two credits, first semester, junior year. Fee, $1.00. Text: "Textiles," by Woolman and McGowan.
Miss Dixon

466.—Textiles II.—Continuation of Textiles 1. Study of materials used in the laundry, including soaps, bluing, starches; the laundering of wool, silk, cotton, and linen fabrics; laundry and light tests for colored wash fabrics; consideration of economic and hygienic aspects of textiles. Prerequisite, Textiles I. Required of Home Economics students electing Domestic Art. Four hours attendance, two credits, second semester, junior year. Fee, $1.00.
Miss Dixon

467.—Textiles III.—Application of color to materials, stenciling, block-printing, basketry. Prerequisites, Textiles, 465 and 466. Elective, four hours attendance, two credits. Fee, $1.00.
Miss Killgore

468.—Drafting.—Drafting and testing of patterns, and application of the draft in a simple house dress. Prerequisites, Sewing I and II. Required of Home Economics students electing Domestic Art. Six hours attendance, three credits, first semester, junior year. Laboratory manual arranged by the department. Fee, $1.00. Miss Carpenter

469.—Dressmaking I.—Designing of garments and the making of a simple wool dress. Required of all Home Economics students electing Domestic Art. Four hours attendance, two credits, second semester, junior year. Fee, $1.00. Miss Dixon and Miss Carpenter

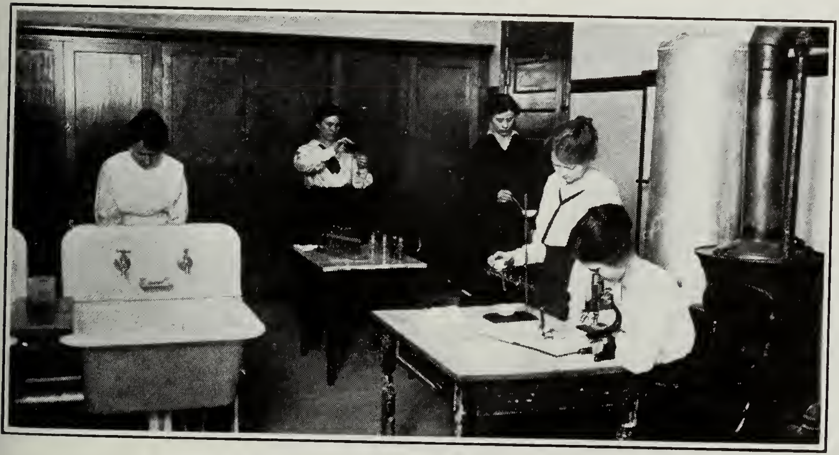
470.—Dressmaking II.—Further application of principles set forth in 468 and 469, with especial consideration of line and color. The making of an afternoon gown, using light weight fabrics. Prerequisite, Dressmaking I. Required of Home Economics students electing Domestic Art. Six hours attendance, three credits, second semester, senior year. Fee, $1.00. Miss Carpenter

471.—Art Needle Work.—Making of needlework sample book; design and practical work in embroidery. Prerequisites, Sewing I and II. Elective, four hours attendance, two credits, second semester, senior year. Fee, $1.00. Miss Carpenter

472.—Millinery.—The making and covering of a buckram frame; the making of a wire frame and sewing of straw braid. Prerequisites, Sewing I and II. Required of Home Economics students electing Domestic Art. Four hours attendance, two credits, first semester, senior year. Fee, $1.00. Miss Carpenter

473.—Tailoring—The making of a wool, tailored suit. Prerequisite, Dressmaking I. Elective, four hours attendance, two credits, first semester, senior year. Fee, $1.00. Miss Carpenter

474.—Demonstration Course.—This course provides an opportunity for the student to present in a public way problems in cookery laundry practice, and sewing. Demonstrations that shall suit typical state condi-



Testing Fabrics for Adulteration

tions are planned and given by the individual student. Prerequisites, Foods I, II, III, and Sewing I and II. Required of Home Economics students. Four hours attendance, two credits, second semester, senior year. Fee, $2.00. Miss Carpenter

475.—Teachers' Course.—A consideration of methods of presentation, the principles underlying the planning of curricula and equipment, practice in planning of curricula and equipment to meet typical conditions in the state, and, observation of teaching in the School of Agriculture at the college, and of teaching in nearby towns. Prerequisite, courses in Home Economics offered in the freshman and sophomore years. Required of all Home Economics students. Three hours attendance, three credits, first semester, senior year. Text: "Domestic Art in Woman's Education," Cooley, and "Equipment for Teaching Domestic Science," Kinne.
Miss Allison

476.—Household Economy.—The historical development of the home; the present relation of the home to the community; problems of the modern Household, economic and social. Lectures, collateral reading, class discussion. Elective, two hours attendance, two credits, second semester, junior and senior years. Miss Allison

477.—Special Problems.—An opportunity for the working out of special problems that arise along home economics lines, and for which students are prepared by training and prerequisite work of the first three years of college. Elective, four hours attendance, two credits, second semester, senior year. Fee, $2.00.
Miss Allison and Miss Carpenter

478.—Institutional Cookery.—Menu planning; study of the buying of foods in large quantities. Study of per capita costs and of per capita food value of menus served. Elements of double entry bookkeeping with special reference to groups larger than the family unit. Practice work in cookery in fairly large quantities offered in the college girls' boarding club directed by the department. Six laboratory periods per week, two recitation periods per week for one-half semester, two credits, Elective, junior and senior years. Fee, $1.00.
Miss Lacey and Miss Burton

479.—Opportunity Classes.—Toward meeting the national emergency, the department holds itself in readiness to offer as non-credit courses, opportunity classes, for which no special prerequisites are required of college students. Such classes will be scheduled under the titles, Primary Nursing Technique, Emergency Sewing Course, Emergency Cookery, Elementary Cookery, and Training Class for Volunteer Extension Workers. Such courses will be announced for each semester as the demand may warrant.

HORTICULTURE

E. P. SANDSTEN	Professor
R. A. McGINTY	Associate Professor
I. C. HOFFMAN	Assistant Professor
H. GOODACRE	Instructor

501.—General Horticulture.—This course is designed to meet the needs of all students looking forward to general agriculture, county agent work, instruction in secondary or consolidated schools, etc. It comprises lectures and outside reading, covering, in a general way, the following subjects: Plant propagation, the principles underlying the culture of orchard and small fruits, vegetables, potatoes, and other special horticultural crops, together with locations and soils adapted to these crops. Attention will also be given to harvesting, grading, packing, marketing, and storing of the various horticultural crops.

The laboratory work will give the student an insight into such subjects as propagation of plants, making and care of hotbeds and cold frames, pruning of trees and shrubs, etc. Reference books: Kains' "Plant Propagation," Sear's "Productive Orcharding," Lloyd's "Productive Vegetable Growing." Required of all students in agriculture, six hours attendance, three credits, second semester, sophomore year. Mr. Sandsten

502.—Vegetable Gardening.—The history, classification, development, culture, and methods of improvement of the various garden vegetables. The general adaptability of the different garden crops for home use and commercial production, and to their adaptation to the different districts of the mountain states particularly. Notes, and outside reading in bulletins and other publications relating to the subject. Three hours attendance, three credits, second semester, junior year. Required in Horticulture. Text: "Garden Farming," Corbett. Mr. Hoffman

503.—Small Fruits.—A systematic study of the history, methods of culture, grading, packing, and marketing of small fruits. Required of

A Class in Gardening in the Greenhouse

horticultural students, two hours attendance, two credits, first semester, junior year. Text: Card's "Bush Fruits," Revised Edition.
Mr. Hoffman

504.—Pomology.—A systematic study of the orchard fruits, classification, history, principles and practices as they obtain in different sections of the country. Special emphasis is placed upon the problems of fruit growing in the irrigated Rocky Mountain fruit districts. Required of horticultural students, first semester, senior year, three hours attendance, three credits. Lectures. Texts: "Productive Orcharding." Sears; "The Apple," Wilkinson. In addition, students will be required to read, "Principles of Fruit Growing," Bailey. Mr. Sandsten

505.—Pomology Laboratory.—A systematic study of different varieties of apples, pears, peaches and plums, their description and classification. Actual work in grading and packing, selecting and preparing fruits for exhibition, and practice work in judging. Taken in connection with course 504. First semester, senior year, three hours attendance, one credit. Mr. Sandsten

506.—Thesis.—This course is offered only to senior students in Horticulture. Some special problem or experiment is taken up and completed. No class work is required, but aside from performing the laboratory work connected with the problem, outside reading is required. At the end of the semester, the student is required to present the result of the work in manuscript form. Elective, second semester, senior year, three hours attendance, one credit. Mr. Sandsten

507.—Floriculture.—Lectures on general greenhouse construction and management, composition of soils for greenhouse plants; the history, classification, development, propagation and methods of manipulation and culture of the various florists' crops, the care of house plants and the growing of flowers out-of-doors. Required of horticultural students, two hours attendance, two credits, first semester, senior year. Must be accompanied by 508. Text: "Principles of Floriculture," White.
Mr. Goodacre

508.—Floriculture Laboratory.—Given in connection with 507. Actual work connected with the recognition and manipulation of greenhouse plants. Notes of the work are required to be kept for reference. Required of horticultural students, first semester, senior year, two hours attendance, one credit. Mr. Goodacre

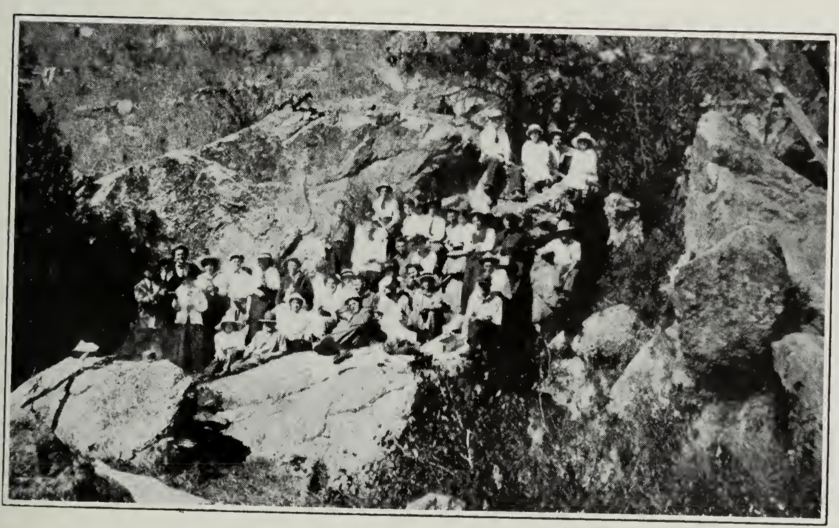
509.—Landscape Gardening.—Different styles of landscape gardening, and their adaptation to the various forms of architecture and locations. Special emphasis is placed upon the study of hardy shade trees, shrubs and perennials, and their grouping. Subject adapted to the conditions in Colorado. Accompanied by course 510. Required of horticultural students two hours attendance, two credits, second semester, senior year. Mr. Sandsten

510.—Landscape Gardening Laboratory.—Taken in connection with 509. Measuring and laying out private and public grounds; preparing plans and specifications; furnishing estimate of cost and general working plan for planting. Familiarization with the names and habit of the various trees and plants used in landscape gardening. Visits will be made to places where object lessons may be obtained. Second semester, senior year, three hours attendance, one credit. Mr. Sandsten

511.—Forcing Vegetables and Fruits.—Theory and practice of growing fruits and vegetables under glass, and the possibilities that are open along that line. Lectures and laboratory work in which the student is required to do as much as possible of the actual work connected with the growing of the crops. Required in the horticultural course; not elective in other courses. Two hours attendance, two credits, second semester, senior year. Reference books: "The Forcing Book," Bailey, and "Fruits and Vegetables Under Glass," Turner. Mr. Hoffman

512.—Experimental Horticulture.—Experimental methods as practiced in the experiment stations, tabulation of results, and presenting the same in bulletin form. A critical study of experiment station bulletins and reports. Assigned reading and reports. Required of horticultural students; not elective for others. Three hours attendance, three credits second semester, senior year. Mr. Hoffman

513.—Plant Evolution and History of Cultivated Plants.—A critical review of past and current literature on plant evolution, and a more detailed study of horticultural plants, their origin and economic importance. Required of horticultural students; not elective. Second semester, senior year, two hours attendance, two credits. Text: Bailey's "Survival of the Unlike." Mr. Sandsten



"Somewhere" on the College Picnic

LANGUAGE

SARAH I. KETTLE........................Professor
GERTRUDE K. LIPPELT..................Instructor

551, 552.—First Year French.—A course in grammar, prose composition, reading and conversation. Alternative required of sophomores in Home Economics course. Five hours attendance, five credits each semester. Text: Chardenal's "Complete Course." Selected reading.
Miss Kettle and Miss Lippelt

553, 554.—Second Year French.—A course in reading and conversation. This includes a critical study of modern French prose and scientific literature. Phonetics. Prerequisites, 551, 552. Elective, five hours attendance, five credits each semester. Miss Kettle

555, 556.—First Year Spanish.—A course in grammar, prose composition, reading and conversation, with especial emphasis placed on making this language of practical use to those whose work will take them among Spanish-speaking people. Alternative, required of sophomores in Home Economics course. Five hours attendance, five credits each semester. Text: Hills and Ford's "Spanish Grammar."
Miss Kettle and Miss Lippelt

557, 558.—A three hour course the aim of which is to give to the student a systematic knowledge of Spanish grammar, so that the language may be quickly and correctly acquired. Miss Kettle

559, 560.—First Year German.—A course in grammar, pronunciation, and reading. Offered alternately in odd years with 561, 562. Elective.
Miss Lippelt

561, 562.—Second Year German.—Reading selected masterpieces of German prose; conversation. Offered alternately in even years, with 559, 560. Prerequisites, 559,560. Elective. Miss Lippelt

563, 564.—German.—Offered for those who wish to continue the subject in college. This course aims to make a practical application of the German already studied and includes prose composition, phonetics, conversation, and the reading of current literature, especially scientific bulletins and newspapers. Prerequisites, a good general knowledge of German grammar. Elective, five hours attendance, five credits each semester.
Miss Lippelt

565,566.—Scientific German.—A practical course, designed primarily to fulfill the needs of those who wish the working knowledge required to read German technical literature. The aim of the course is to secure proficiency in the reading and translation of scientific German. Prerequisite, a good knowledge of German grammar. Elective. Three hours attendance, three credits.

Note: The five-hour courses in second year French and German are divided into divisions of three hours and two hours. Students may elect one without the other.

LIBRARY

CHARLOTTE A. BAKER	Librarian
CLARA A. GLIDDEN	Assistant Librarian
E. ARLENE DILTS	Assistant
ETHEL HULL	Assistant
IVA C. WATSON	Assistant

Location and Building.—The Library is south of the group of mechanical buildings and faces the men's tennis courts. It is entered through a central hall which is arched into a reading-room eighty by fifty feet. This general reading-room has windows on three sides and three skylights, making it exceptionally well lighted and ventilated. Stacks abut from the walls forming alcoves along the windows. The tables in the alcoves and throughout the room give a seating capacity for one hundred and seventy-five.

At the left as you enter the hall, is the agricultural document reading-room. The second door at the right leads into the stack for the books which circulate. In the basement, are the stacks for documents, and rooms for duplicate periodicals and books.

Books and Arrangement.—The college library is for the use of the entire college. It now numbers about 40,000 books and 50,000 pamphlets, and consists of a general library and eleven departmental libraries. The aim is to build up a good working collection along scientific and technical lines. The experiment station has its library in a separate building.

In the Main Reading-room are the reference books, the reference periodicals with such magazine indexes as Poole, Readers' Guide, Readers' Guide Supplement, Industrial Arts Index, Agricultural Index, and various general indexes. This room also shelves the publications of the United

The Library Is Well Equipped With the Best Books, Reference Works and Periodicals

States Bureau of Education, the United States Geological Survey and Smithsonian Institution. The books and periodicals in this room are placed here, because they have a special value for reference work. They answer many questions directly and provide a starting point for more extended research. Every student should become familiar with the general encyclopedias, statistical compilations, and periodical indexes.

In the **Agricultural Document Reading-room** are collected the publications of the United States Department of Agriculture, together with the publications of the various state experiment stations and state boards of agriculture. This room also has the government card catalog of the state experiment station publications, and all government indexes.

Books which circulate are shelved in the main floor stack. They are arranged according to the Dewey scheme of classification. The shelves are labeled. If you cannot find what you need, use the dictionary card catalog, or ask for help at the lending desk.

The **Dictionary Card Catalog** is opposite the lending desk at the entrance to the main reading-room. Printed directions for its use are above this catalog. As far as possible Library of Congress cards are bought for this catalog.

Gifts.—From time to time, the library has received gifts of private collections. These now consist of the Annie Jones, Louis B. France, and Barton O. Aylesworth collections, and the Theodosia Ammons Memorial Library. It occasionally receives gifts of separate volumes and documents of especial value.

Two hundred fifty-two newspapers and periodicals are regularly donated to the library. Most of the papers of the state, besides a large number of technical papers from the United States and other countries are included in this list.

Documents.—By United States law, all agricultural libraries are depositaries. This means that they are "authorized to receive copies of every publication printed by the government and made for distribution. All such books and documents, when received at their proper libraries, shall be kept there and not removed from their places." Library of Congress cards have been bought for all government publications as far as has been possible. All of these documents are arranged according to the government scheme of classification.

Library Regulations.—All students who have paid their library fee are entitled to borrow books. The town people may borrow books by paying ten cents for each book or pamphlet, and may have the free use of the reference room.

Books are not lent for a fixed period. A book which at one time may be borrowed for two weeks, at another time may be in reserve and can not be taken from the library except for the periods when the building is closed.

Reserved books are books which are shelved back of the lending desk at the request of an instructor, or by the library when they prove to be in active demand by a number of students, all of whom have an equal right to their use. Books that are in circulation must often be called in to be placed on the reserve shelves. Do not assume you can get the use of a reserved book the evening before an assignment is due. Too many others may do the same. To be sure you may have a book when you have a free hour, come into the library and engage it ahead by signing the proper application. Books may be engaged for not more than four days in advance of their use. Reserved books are lent for reference use for one period.

Fines.—Fines on reserved books are ten cents for the first fifteen minutes; five cents for the second, third, and fourth fifteen minutes, and five cents for each subsequent hour. Fines on all other loans are five cents a day for each separate book and pamphlet. To know when your book is due, examine the last date on your card, or the date on your special arrangement slip.

The Library Staff.—The library staff is for the use of the students and will cheerfully give all assistance possible to the student body. As this is a small library, the staff must be busy at odd minutes with clerical work, but this work will be dropped whenever a student needs help. No student should hesitate in making his wants known.

Library Hours.—The library is open on college days from 8:00 a. m. to 9:30 p. m., excepting 12:30 p. m. to 1:00 p. m., and 6:00 p. m. to 7:00 p. m. On Saturdays the library closes at 5:30 p. m.

Vacation hours are from 9:00 a. m. to 12:00 m., and 1:00 p. m. to 4:00 p. m.

Inter Library Loans and Extension.—Books not needed at the college for other work, and not subject to special restrictions, will be lent to other libraries in the state for the use of their patrons. Where no library exists, books will be lent to responsible individuals or schools. The library will be pleased to answer questions, make out reading lists, or render other assistance when possible.

Books not on our shelves, or not within the scope of our purchases, frenquently can be borrowed from other libraries. These loans are not made to individuals but to the library and must be arranged for through some member of the library staff. Carriage must be paid both ways by the borrower.

595.—Course in the Use of a Library.—This course teaches by the means of lectures and practical problems the use of catalogs, indexes, and reference books. Work with documents is emphasized. It is not designed to train librarians, but to teach students how to use books readily and intelligently. This is an elective, requiring four hours laboratory work and one recitation a week. Two credits. Student assistants for the library are usually chosen from this course. Text: Hopkins' "Reference Guides That Should Be Known and How to Use Them."

Lectures to Freshmen.—Lectures giving general directions about the use of the library are given to the freshmen students, in small groups. Each group is given three lectures.

MATHEMATICS

S. L. MACDONALD........................Professor
*PIERRE ROBINSON ....Instructor
LAURA C. GRAVES.......................Instructor
MABEL HOYT ....Instructor

The work in mathematics is designed not only to meet the practical needs of the engineer, but also to furnish the curriculum with a strong factor for education and culture. The subject is continuously taught through the freshman and sophomore years.

602.—College Algebra.—After a brief review of quadratic equations, the following topics are taken up and treated in the order given: binomial theorem, the progressions, complex numbers, and the theory of equations. Graphical representation is frequently used. Required in Mechanic Arts and Agricultural divisions, alternative in Home Economics. Five hours attendance, two and one-half credits, first half semester, in Mechanic Arts Division, freshman year, and in Agricultural Division, sophomore year. Text: Skinner's "College Algebra." Mr. Macdonald and Mrs. Graves

603.—Plane and Spherical Trigonometry.—Preference is given to geometric rather than analytic methods in the development of the formulae of this subject. A thorough drill in the use of logarithms comes incidentally in dealing with the general plane and spherical triangles. Special attention is given to practical applications in surveying, geodesy, and astronomy. Prerequisite, entrance requirements. Required in Agricultural and Mechanic Arts divisions, and an alternative in Home Economics.

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*On leave at University of Chicago, 1917-1918.

A Bird's Eye View of Colorado Field, the Best Athletic Field in the Rocky Mountain Region

Five hours attendance, two and one-half credits, second half of first semester in Mechanic Arts Division, freshman year, and in Agricultural Division, sophomore year. Text: Kenyon and Ingold's "Trigonometry."

Mrs. Graves

604.—Analytic Geometry.—The following topics are treated in the order given: co-ordinates, fundamental metrical formulas, plane loci and their equations, the straight line, standard equations of the second degree, trigonometric and exponential functions, parametric representation, conic sections and general equation of the second degree, empirical equations, loci in three dimensions, the plane and straight line, an elementary treatment of the quadric surfaces and the most important, space curves. Required in Mechanic Arts division. Prerequisites, 602, 603. Five hours attendance, five credits, freshman year, second semester. Text: Phillips' "Analytical Geometry."

Mrs. Graves

605.—Differential Calculus.—The doctrine of limits is here regarded as the foundation of the calculus and as the entrance to higher mathematics. The derivative is rigorously developed and afterwards interpreted as a rate, a slope to a curve, and as a differential. Much time is given to the applications to the problems in engineering science and practice. Required in Mechanic Arts division, five hours attendance, five credits, first semester, sophomore year. Text: Love's "Calculus." Mr. Macdonald

606.—Integral Calculus.—Continuation of 605. The integral is treated first as the inverse of the differential and then as a process of summation. Each problem is regarded as a sort of formula which may be used in the solution of succeeding problems. Special attention is given to length of curves, areas, surfaces, solids, water pressure, averages and center of gravity. Required in Mechanic Arts division, five hours attendance, five credits, second semester, sophomore year. Mr. Macdonald

607.—Astronomy.—This course is offered even-numbered years as Descriptive Astronomy, and odd-numbered years as Engineering Astronomy. The department has an observatory equipped with a four-inch refracting equatorial telescope, and a fair reference library. The course is open to upper classmen upon consultation. Prerequisite, 603. Three hours attendance, three credits, second semester. Mr. Macdonald

608.—Method of Least Squares.—Designed for students in Civil Engineering. Prerequisites, 604, 605. Elective, two hours attendance, two credits, second semester. Text: Merriman's "Method of Least Squares."

Mr. Macdonald

609.—Graphical Methods.—Designed for students in Electrical Engineering, special attention being given to complex numbers and hyperbolic functions. Prerequisites, 605, 606. Elective, three hours attendance, three credits, second semester.

Mr. Macdonald

610.—Differential Equations.—A course primarily for senior electrical bolic functions. Prerequisites, 605, 606. Elective, three hours attendance, three credits, second semester. Mr. Macdonald

MECHANICAL ENGINEERING

J. W. LAWRENCE	Emeritus Professor
L. D. CRAIN	Professor and Head of Department
*ALBERT CAMMACK	Associate Professor
S. I. ROSS	Associate Professor
H. J. WILSON	Instructor
R. A. BRADLEY	Instructor
H. A. SCHOTT	Instructor

652.—Drawing.—Care and use of instruments and the making of practice drawings. Lettering. Problems in orthographic and isometric projections and the development and intersection of surfaces. Required of students in Mechanic Arts division, first semester, freshman year, six hours attendance, two credits. Text by French. Mr. Ross

653.—Bench Work in Wood.—Embraces the manipulation of the tools in their various application. Students work from drawings. Window, door and stair framing, cases, benches, boxes, foundry flasks, and a variety of other useful articles are made. Required in Agricultural and Mechanic Arts divisions, first or second semester, freshman year, six hours attendance, two credits. Fee, $2.00. Mr. Wilson

654.—Machine Work in Wood.—There are given examples of straight turning; cutting in and squaring off; concave, convex, and compound

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*Resigned.

Ascertaining Quality of Steam With Barrel Calorimeter curves; handles for chisels and other tools, and examples in chuck work in separate and combined pieces. Required in the Mechanic Arts division, first semester, freshman year, four hours attendance, one and one-third credits. Fee, $1.00. Mr. Ross

655.—Drawing.—The sketching of machine parts and the making of working drawings, tracings, and blue prints from these sketches. Required in Mechanic Arts division, second semester, freshman year, six hours attendance, two credits. Prerequisite, 652. Mr. Ross

656.—Forge Work.—Students are carried through a series of carefully graded exercises in both iron and steel, working from drawings in each instance. The students are taught how to bend, twist, upset, draw, and weld iron and steel, how to anneal, case harden, temper, braze, etc. Many pieces are made which are put to a practical use. Required in the Agricultural and Mechanic Arts division first or second semester, freshman year, six hours attendance, two credits. Fee, $3.00. Mr. Schott

657.—Descriptive Geometry.—The principles of projection, intersection, development, etc., illustrated by a great variety of problems accurately worked out on the draughting board by each student. Required in the Mechanic Arts division, first semester, sophomore year, five hours attendance, five credits. Prerequisite, 655. Text by Miller. Mr. Ross

658.—Boilers.—The various forms are carefully studied. Injectors, pumps, condensers, feed-water heaters, and economizers receive special consideration. Chimney draft and mechanical draft are studied and compared with regard to their relative efficiencies. Required in the Mechanical Engineering course, first semester, junior year, three hours attendance, three credits. Text by Parsons. Mr. Crain

659.—Principles of Mechanism.—Study of designs for the communication of motion by means of gears, belts, linkage, etc.; methods of designing parallel motions, quick return motions, and cone pulleys. The adaptation of the formation of gear teeth of the involute, the epicycloid, the logarithmic spirals and other curves. Required in Mechanical Engineering course, junior year, first semester, three hours attendance, three credits. Prerequisite, Mathematics 603. Text by Sibley. Mr. Ross

660.—Internal Combustion Engines.—Theory and construction of gas and oil engines, igniters, governors, etc. The study of traction and portable gas and oil engines, such as are used in industrial plants, upon contracting work and upon highways and farms. The study of automobile engines. Elective, first semester, senior year, three hours attendance, three credits. Prerequisites, Chemistry 151, Physics 757. Text by Streeter. Mr. Ross

661.—Kinematic Drawing and Machine Design.—Drafting room work taking up practical applications of problems in pure mechanics and kinematics, also the design of elementary machine fastenings such as set screws, bolts, keys, gibs and cottlers. Elective, second semester, junior year, four hours attendance, four credits. Text by Reid and Reid. Mr. Ross

662.—Foundry.—Students are taught by lectures, recitations and actual work, how to charge and manage the cupola, brass furnace, and core oven. Castings of brass, iron and other metals and alloys are made. Required in Mechanical Engineering course, first semester, junior year, six hours attendance, three credits. Fee, $2.00. Mr. Bradley

663.—Pattern Making.—Examples of plain work; core work; pulley work; pipe work; gear work; core boxes, their use and construction, are given. Required in the Mechanical Engineering course, first semester, junior year. Four hours attendance, two credits. Fee, $1.00.

664.—Machine Shop Tools.—Textbook and lectures. The aim is to familiarize the student with up-to-date methods under various conditions of practice and with such machines and appliances as do not come under his immediate observation in our shops. Elective, second semester, junior year, two hours attendance, two credits. Text by Vandervoort.

665.—Machine Design.—Includes designs of riveted joints, shaft and pipe couplings, bearings, etc. Elective, first semester, junior year, six hours attendance, three credits. Text by Reid and Reid. Mr. Ross

666.—Machine Work in Metals.—A shop course comprising bench, drill press, shaper, planer, lathe and milling machine exercises. Also the rules governing the use and care of small tools, accurate measurements, finishing, cutting speeds, and general principles underlying the operation of all classes of machine tools are presented. Prerequisite, 653, 654, 656, 662. Required in Mechanical Engineering course, second semester, junior year, ten hours attendance, three and one-third credits. Fee, $2.00. Mr. Bradley

667.—The Steam Engine and Valve Gears are studied in their various forms in detail. The department has appliances necessary for complete engine tests. Careful attention is given to the study of valves. The study of traction and portable steam engines such as are used in industrial plants upon contracting work and upon highways and farms.. Various types of steam turbines are taken up and comparisons made with reciprocating engines. Required in the Mechanical Engineering course, first semester, senior year, three hours attendance, three credits. Text by Ripper or Furman. Mr. Crain

668.—Thermodynamics.—A study of the laws of thermodynamics as applied to steam engines, gas engines, air compressors, injectors, and other appliances. Required in Mechanical Engineering course, second semester, junior year, three hours attendance, three credits. Prerequisite, 605. Text by Meyer and Calderwood. Mr. Crain

669.—Transmission of Power.—A study of the various forms of power transmission in shops and factories; belt rope and chain transmission. Elective, first semester, junior year, two hours attendance, two credits. Prerequisite, 603. Mr. Crain

670.—Machine Design.—A course in the proper designing of various machine parts and complete machines. Elective, first semester, senior year, three hours attendance, one and one-third credits. Mr. Ross

671.—Specifications and Contracts.—Complete working drawings for some particular problem are made, the specifications are made, and a form of contract for such a problem is carefully worked out. Study of the laws governing contracts and specifications. Elective, first semester, senior year, two hours attendance, two credits. Text by Johnson.

Mr. Crain and Mr. Davis

672.—Seminar.—The consideration of articles of interest appearing in the current technical papers and magazines. Elective, first semester, senior year, one hour attendance, one credit.

Mr. Crain

673.—Materials of Machines.—The study of combustion, fuels, furnaces, and refractory materials, especially the metallurgy of iron and steel. A study of the chemical and physical properties of the metals and alloys used in machine construction; heat treatment of steel. Prerequisite, Chemistry 151. Elective, second semester, senior year, two hours attendance, two credits. Text by Smith.

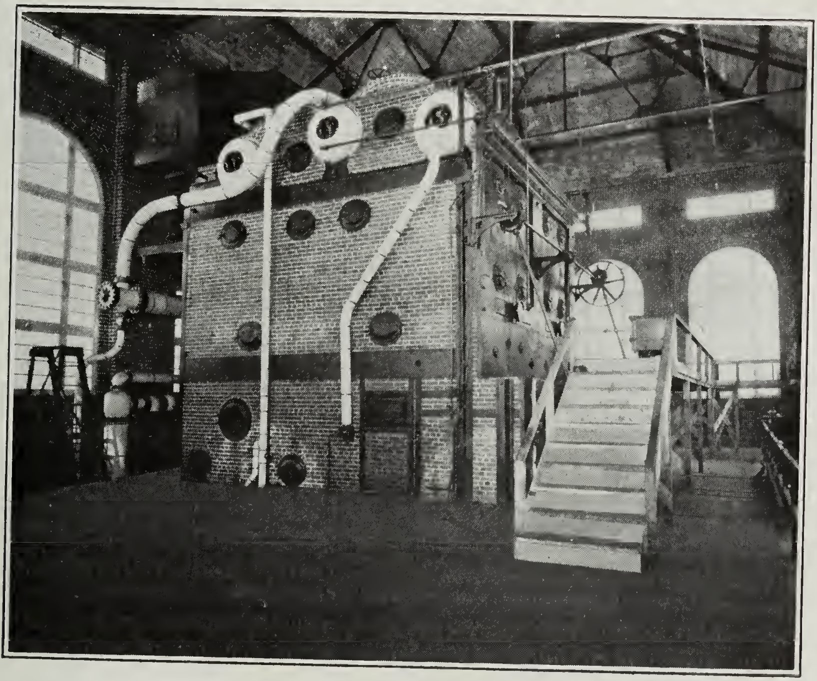
Mr. Crain

674.—Machine Shop.—Required in Mechanical Engineering course, first semester, senior year. Six hours attendance, two credits. Prerequisite, 666. Fee, $1.00.

Mr. Bradley

675.—Machine Shop.—Elective, second semester, senior year. Prerequisite, 666. Four hours attendance, one and one-third credits. Fee, $1.00.

Mr. Bradley



Interior of the Heating Plant—An Admirable, Practical Laboratory for Mechanical Engineering Students

676.—Engineering Design.—The design and arrangement of power plants, shops and factories. Required in Mechanical Engineering course, second semester, senior year, six hours attendance, three credits. Prerequisite, 661. Mr. Ross

677.—Railway Mechanical Engineering.—The design and construction of locomotives, the operation of the airbrake, and the study of different forms of signals and switches. Elective, first semester, senior year, two hours attendance, two credits. Text by Wood. Mr. Crain

678.—Heating and Ventilation.—The study and design of various forms of heating and ventilation in common use in modern buildings. Prerequisite, Chemistry 151 and Physics 757. Required in Mechanical Engineering course, second semester, senior year, three hours attendance, three credits. Text by J. D. Hoffman. Mr. Crain

679.—Steam Engine Design.—It is the endeavor to have this work conform to the best modern practice, and to supplement the instruction given, by requiring the student to investigate existing engines with regard to their design and construction. Blue prints of drawings furnished by prominent manufacturers are also used, and show the prevailing forms of engines in use. Elective, second semester, senior year, three hours attendance, three credits. Prerequisites, 667, 661. Mr. Crain

680.—Compressed Air Machinery.—The study of motors, compressors, hoists, and various air tools. Elective, second semester, senior year, two hours attendance, two credits. Prerequisite, 667. Text by H. J. Thorkelson. Mr. Crain

681.—Seminar.—Continuation of 672. Elective, second semester, senior year, one hour attendance, one credit. Mr. Crain

682.—Thesis.—Elective, first semester, senior year, four hours attendance, two credits. Mr. Crain

683.—Thesis.—Each senior is assigned a subject, which he is to investigate and upon which he must write a satisfactory thesis. Second semester, senior year, four hours attendance, two credits. Mr. Crain

684.—Refrigeration and Refrigerating Machinery.—The study of methods of producing low temperatures by artificial means, and the study of refrigerating machinery. Elective, second semester, senior year, two hours attendance, two credits. Prerequisite, 667. Lectures. Text by Green. Mr. Ross

686.—Mechanical Engineering Laboratory.—Investigations of the physical properties of materials of construction entering into buildings, machinery and other structures; test and examination of different kinds of boilers, engines, pumps, etc. Required in Mechanical Engineering course, second semester, senior year, six hours attendance, three credits. Prerequisite, 667, 674. Mr. Crain

Visits of Inspection.—During the senior year, the students make visits of inspection to large industrial establishments of the state, in charge of an instructor. These visits are intended to be of educational value and to supplement the work done at the college and to show the students the practical application of many things taught in the classroom. Required in Mechanical Engineering course, second semester, senior year.

MILITARY TACTICS

LOUIS R. BALL, Captain U. S. Army, Retired.... .... Professor

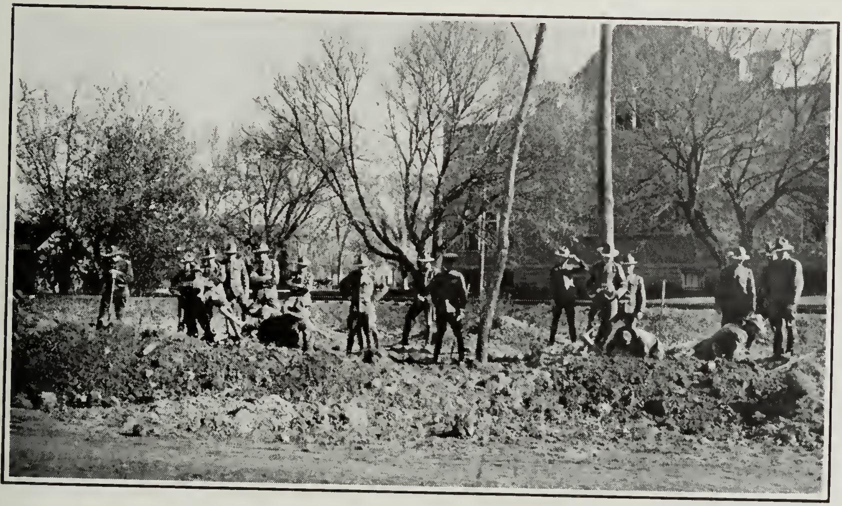
JOSEPH DRESCHER, First Class Sergeant, Signal Corps, U. S. Army, Retired.................. ....Assistant to Commandant, and Armorer

By act of Congress, July 2 ,1862, the Federal Land Grant Colleges are required to teach military science and tactics. Under faculty regulations, all male students except juniors and seniors are required to carry certain prescribed courses. The Department of Military Science and Tactics of the institution has been, by application of the State Board of Agriculture, included in the Reserve Officers' Training Corps, act of Congress, June 3, 1916.

RESERVE OFFICERS' TRAINING CORPS

All juniors and seniors who elect to take the Advanced Course Reserve Officers' Training Corps and are recommended by the military department and the president of the college, will be permitted by the President of the United States to pursue such course, during their junior and senior years, and will receive from the United States commutation of subsistence. Five credits per semester are given toward graduation.

No Oath of Service.—No oath of service is required to pursue this course; each man agrees to complete the course, after which he may be commissioned by the President, a second lieutenant of the Officers' Reserve Corps of the United States army, and may upon graduation go for service with the regular army, with the rank and allowances of a second lieutenant and $100.00 per month pay for a period of six months. Should he desire



Cadets Digging Trenches on the Campus

to continue in the service of the United States as an officer, he may be commissioned by the President, a second lieutenant of the Officers' Reserve Elementary French, German or Spanish, World's History, Surveying, and a fourth elective subject, Advanced English, French, German or Spanish, Analytics, Calculus, Advanced Surveying, or Military Art and Field Engineering.

Uniform.—One olive drab uniform complete, except ornaments, is issued without cost to all men doing drill in Reserve Officers' Training Corps and to each cadet doing drill.

Target Range.—An excellent Target Range of 12 Mid-Range and 6 Long-Range targets is provided.

Importance of Training.—The importance of military training both to the individual and to the state, is so great that comment thereon is here unnecessary, although it may not be amiss to call attention to the benefits coming to the student through physical training, habits of orderliness, obedience and precision, and from a personal realization of responsibility and knowledge gained in organization. The growing demand for military instruction in connection with school work, has led the authorities to make the work as thorough as possible; so that every able-bodied male student may become a well-instructed soldier, capable of rendering good service, and may be able to organize, direct and instruct others. In fact, each cadet becomes a potential officer for our citizen soldiery.

Discipline.—Such discipline is imposed as is designed to teach precise and soldierly movement and to inculcate prompt and subconscious obedience, which is essential to military control, and to make those who receive it able to direct kindly, firmly and justly, when called upon to command or to take their place in industrial organizations.

Organization in Senior Division.—A battalion of infantry with band and staff is maintained. Each company is under the command of a captain who is a member of the junior or senior classes. Captains and lieutenants are selected from the junior class by examination. Sergeants and corporals are chosen from the junior and sophomore classes, by examination.

A Junior Division of the Reserve Officers' Training Corps with all the privileges and allowances of the Basic Course of the Senior Division is established for the School of Agriculture.

The Basic Course is completed in four years in the School of Agriculture or Junior Division, and in two years in the College or Senior Division.

Contract for Juniors and Seniors.—Any member of the Senior Division who has completed two academic years of service in that division, who has been selected for further military training by the president of the college and the professor of military science and tactics, to secure the commutation of subsistence fixed by the Secretary of War, must sign the following contract

——————————19—

In consideration of commutation of subsistence to be furnished to me in accordance with law, I hereby agree to continue in the Reserve Officers' Training Corps during the remainder of my course in The Colorado Agricultural College and to devote five hours per week during such period to the military training prescribed, and to pursue the course of camp training during such period, prescribed by the Secretary of War.

BASIC COURSE

701.—Military Art.—Including the school of the soldier, squad and company, close and extended order. Preliminary instruction in sighting, position and aiming drills, gallery practice, nomenclature, and care of rifle and equipment. Theory of target practice, individual and collective; military organization; map reading; service of security, and personal hygiene. Required, first semester, freshman year, three hours attendance two credits.

702.—Military Art.—School of battalion, with special attention devoted to fire direction and control; ceremonies; manuals; bayonet combat; intrenchments; first-aid instruction; range and gallery practice. Lectures: General military policy as shown by military history of the United States and military obligations of citizenship; service of information; combat; school of company; camp sanitation for small commands. Required, second semester, freshman year, three hours attendance, two credits.

703.—Military Art.—Combat firing if practicable; if not, then collective firing in indoor ranges by devices now in vogue at United States Disciplinary Barracks. School of battalion and combat; small arms firing regulations; lectures; map reading; camp sanitation and expedients. Required, first semester, sophomore year, three hours attendance, two credits.

704.—Military Art.—Signaling; semaphore and flag; first aid. Work with stand table by constructing to scale; intrenchments, field works, obstacles, bridges, etc. Comparison of ground forms with terrain as represented on map; range practice. Lectures; military history; service of information and security (illustrated by small tactical problems of patrolling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages, and camping expedients; marches and camps). Required, second semester, sophomore year, three hours attendance, two credits.

705 (a).—Military Camp.—Freshmen and sophomores will be expected to encamp during the spring vacation of each year. Those not taking the spring camps will be required to take three hours drill a week during the junior year.

705 (b).—Freshmen and sophomores have physical training two hours a week in the Department of Physical Training.

ADVANCED COURSE

706.—Duties of Officers and Field Studies.—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching; minor tactics; field orders; map maneuvers; company administration; military history. Required of cadets who have signed the Reserve Officers Training Corps agreement. First semester, junior year, five hours attendance, four credits.

707.—Continuation of 706.—Duties consistent with rank as cadet officers or non-commissioned officers. Minor tactics; map maneuvers; elements of international law; property accountability; methods of obtaining supplies and equipment. Required of cadets who have signed the Reserve Officers' Training Corps agreement, second semester, junior year, five hours attendance, four credits.

708.—Duties of Officers and Military Theory.—Duties consistent with rank as cadet officers or non-commissioned officers in connection with the practical work and exercises scheduled for the unit or units. Military sketching; tactical problems; map maneuvers; court-martial proceedings; international relations; psychology of war; principles of strategy. Required of cadets who have signed the Reserve Officers' Training Corps agreement, second semester, senior year, five hours attendance, four credits.

709.—Duties of Officers and Military Theory, Continued.—Tactical problems. Map maneuvers. Rifle in war. Military history and policy. Required of cadets who have signed the Reserve Officers' Training Corps agreement, second semester, senior year, five hours attendance, four credits.

Topographical, Trench, and Fortification Work on the Sand Table

BATTALION ROSTER

Louis R. Ball, Captain, U. S. Army, Retired	Commandant
Joseph Drescher, First Class Sergeant, Signal Corps, U. S. Army, Retired,	Assistant to Commandant

FIELD AND STAFF

Harry S. Parker	Major
Arthur R. Fish	Battalion Adjutant

NON-COMMISSIONED STAFF

George Z. Dimmitt	Sergeant Major
Lionel C. Anderson	Color Sergeant
Clarence Bliss	Color Sergeant

BAND

William H. Feldman	Band Leader
Arthur A. Kroll	Assistant Band Leader
Russell W. James	Drum Major
Harry C. Walker, Jr.	Sergeant Bugler

COMPANY A

Linne D. Klemmedson	Captain
Sigmund F. Landers	First Lieutenant
Charles W. McLain	Second Lieutenant

COMPANY B

Wayne Large	Captain
Rufus C. Gates	First Lieutenant
Arthur Slocum	Second Lieutenant

COMPANY C

Ernest Newlander	Captain
Dawson H. Burwell	First Lieutenant
Lloyd Randolph	Second Lieutenant

The Walk Through the Circle Drive

PHYSICAL TRAINING

H. W. HUGHES..............................Director
MISS EDWINA LAYMAN...........Assistant Director
(In charge of Physical Training for Women)
J. R. REISNER ....Assistant Director
(In charge of Physical Training for Men)

Physical Education for Women.—The object of the work in physical training is to help in the acquisition and maintenance of health in body and mind; and to aid in a nearer approach to the ideal of perfect physical, mental, and moral development. The work aims to be educative, corrective, and recreative. Especial emphasis is placed upon general body-building and co-ordinated movements which develop alertness, decision, concentration and perfect control of mind over body; on corrective exercises for the adjustment of any defective or incorrect attitude of the body; and on the recreative exercises and games which cultivate a standard of fair play, and add much to the pure enjoyment of the work.

Folk and aesthetic dancing have been introduced into the work, and, when taken from the educational standpoint, are some of the most potent factors in promoting a graceful carriage with free, easy movements.

The new playground and tennis courts have added much to the possibilities of out-of-doors physical work, and games suitable to the season.

Physical training is required of every young woman except the students of the conservatory and seniors. The work is given in three one-hour periods each week (one credit). Uniform gymnasium suits of black serge, with blouse and full bloomers, gymnasium shoes, a short, full skirt for tennis and walking, rubber-soled shoes, and a tennis racket are required for satisfactory gymnastic work. The suits may be made or purchased after consulting the director. A physical examination by the director is required upon entrance, to ascertain the fitness of every student

Three One-Hour Periods a Week Are Devoted to Physical Training

The Sport That Develops Real Men

for the work, and to aid in the individual correction of any possible physical defects. Students physically unfit for work at any time, are excused during the period of disability.

The Green and Gold, the field for women, is located north of Agricultural Hall, and contains tennis, basketball, and volleyball courts; a field sodded for hockey and other out-of-door games. Provision is made for outdoor theatricals.

The Department of Athletics is well organized under immediate direction of the Physical Director and comprises work in six lines,—football, basketball, track, baseball, tennis and cross-country, each of which has its separate organization and finance. All business matters pertaining to athletics are considered by the council, consisting of S. L. Macdonald, chairman; H. W. Hughes, W. J. Morrill, William Nye, and Carl Doehling, three of whom are members of the faculty, and two are students elected by the Athletic Association.

The Agricultural College is a member of the Rocky Mountain Faculty Athletic Conference. Its athletics are on a very firm basis, free from debt, with all athletic teams well supplied with necessary equipment.

Colorado Field, the new athletic field for men, is located south of Agricultural Hall; the field for women is north.

The field for men consists of a quarter-mile cinder track, with football and baseball fields sodded in blue grass on the inside of the oval, with steel bleachers to seat 1,000 persons. The outside of the oval contains two practice fields, one for football, and one for baseball. In one corner of the field is located a cement club house, with hot and cold showers, warm rubbing tables, and lockers to accommodate 150 men.

The entire field is parked with shrubbery and driveways, and is surrounded by a high wire fence, with shrubbery planted directly on the inside.

Physical Education for Men.—Physical training is required for all sophomores and freshmen and is scheduled two days each week. Exercises are taken from Manual of Physical Training, United States Army. On the recommendation of the Director, students taking part in athletics may be excused from the required physical training for the semester in which they are engaged in athletics. Students must take at least one semester of physical training. The fee of $1.50 each semester, pays for the use of locker and shower, and for a clean suit and towel each exercise. A deposit of $1.00, which will be returned if goods furnished are returned in good conditions, is required.

The 1918 Football Machine

PHYSICS

FRED G. PERSON........................Professor
FRANK P. GOEDER.............Associate Professor

751.—Household Physics.—A study of mechanics of solids, liquids, gases, heat, magnetism and electricity, sound and light. The fundamentals of the subject are carefully considered in their relation to the household. Ventilation, heating and lighting, etc., are given careful attention. Prerequisites, Algebra through quadratics. Required of Household Economics division, first semester, freshman year, two hours attendance, two credits. Mr. Person

752.—Household Physics Laboratory.—Taken with 751. Designed to give the students more intimate acquaintance with the phenomena of daily life by performing the experiments covered by the subject matter of the text. Required in Home Economics courses, first semester, freshman year, two hours attendance, one credit. Fee, $1.00. Mr. Person

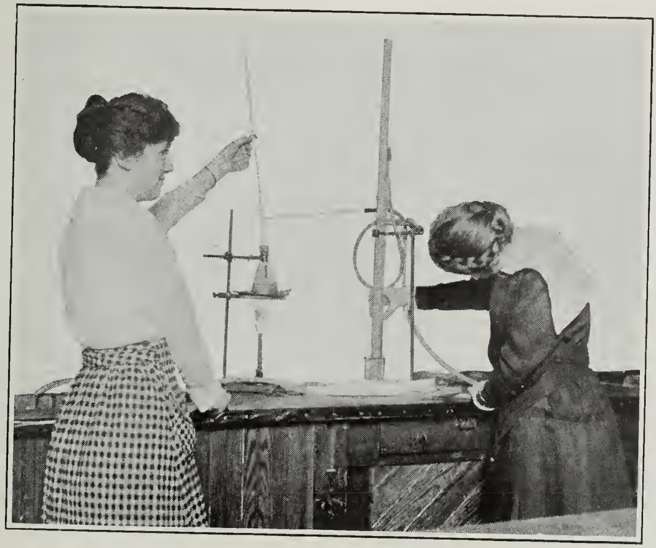
753.—Household Physics.—Continuation of 751. Second semester, freshman year, two hours attendance, two credits. Mr. Person

754.—Household Physics Laboratory.—Continuation of 752. Second semester, freshman year, two hours attendance, one credit. Fee, $1.00. Mr. Person

755.—General Physics.—A study of mechanics of solids, liquids, gases, heat, magnetism, electricity, sound, and light. A course intended to give general knowledge of the phenomena in the physical world, and to form a basis for the study of all applied science. Prerequisite, college algebra and trigonometry. Required in division of Mechanic Arts, first semester, sophomore year; agriculture, first semester, sophomore year, three hours attendance, three credits. Mr. Person

756.—General Physics Laboratory.—Taken with 755. Experimental work designed to give the student first hand knowledge of the operation of physical laws and to teach him methods of measurement and ability to handle and manipulate apparatus. Required in division of Mechanic Arts, first semester, sophomore year, and Agriculture, first semester, sophomore year, four hours attendance, two credits. Fee, $2.00. Mr. Goeder

757.—General Physics.—Continuation of 755. Second semester, three hours attendance, three credits. Mr. Person



In the Physics Laboratory

Another Corner of Physics Laboratory

758.—General Physical Laboratory.—Continuation of 756. Second semester, four hours attendance, two credits. Fee, $2.00. Mr. Goeder

759.—Applied Mechanics.—This course, consisting of lectures and recitations, will cover the practical applications as well as the theoretical side of forces in action in the general field of mechanics. Numerous problems illustrating the different cases are used. Prerequisites, college algebra, trigonometry, calculus. Required, sophomore year, second semester, three hours attendance, three credits. Mr. Person

760.—Electrical Measurements.—An elementary study of magnetism and electricity, the laws governing the same, and methods of measuring the quantities involved. Required in Electrical Engineering course, first semester, junior year, three hours attendance, three credits. Mr. Foltz

761.—Electrical Measurements Laboratory to Accompany 760.—A study designed to give the student familiarity with the different types of electrical measuring instruments, determination of electrical properties and quantities, and testing. Many practical experiments employing the most up-to-date methods are performed. Required of the Electrical Engineering group, first semester, junior year, four hours attendance, two credits. Fee, $1.00. Text: Timbie & Higbie, "Elements of Electricity for Technical Students." Mr. Foltz

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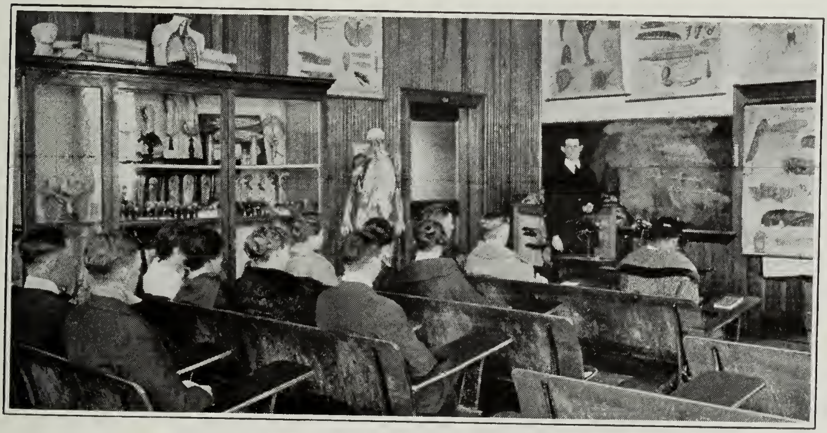
DEPARTMENT OF RURAL AND INDUSTRIAL EDUCATION

C. G. SARGENT	Professor
MARGARET E. DURWARD	Associate Professor
G. T. AVERY	Assistant Professor
W. E. VAPLON	State Club Leader
MAUDE E. SHERIDAN	Assistant Club Leader
LOUBERTA SMITH	Assistant Club Leader

RESIDENT COURSES

The recommendations of the State Board for Vocational Education of Colorado, approved by the Federal Board for Vocational Education, provide that the training of teachers of agriculture and home economics under the co-operative agreement established by the Smith-Hughes Law shall be done at the Colorado Agricultural College. The resident courses here listed not only meet the requirements of the Federal Law mentioned above, but they also meet the requirements of our State Certification Law, and all persons who take these courses and who successfully complete twelve weeks of practice teaching are entitled to receive a Colorado State Teachers' Diploma. This diploma entitles the holder thereof to teach in any of the public elementary or secondary schools of the state for a period of five years without examination. At the expiration of five years it may be renewed for a like period, and later renewed for life. All persons who are preparing for county agent or county home demonstration work, and those who are preparing for field work in the extension service, as well as those preparing to teach either agriculture or home economics in the secondary schools of Colorado will be required to take these teacher-training courses. The complete courses in agriculture may be found on pages 42 to 51, and the courses in home economics are given on pages 54 and 55 in this catalog.

802.—Practice Teaching.—An unusual opportunity is given for practice teaching in the School of Agriculture. Open to seniors only. Unless special permission is given by the supervisor of practice teaching, no one is allowed to take this course who has not made an average grade of 80 per cent during the three previous years, or who is carrying more than twenty hours of work, including the practice teaching. Seniors are given an opportunity to teach in the various departments, such as Home Economics, Agronomy, Animal Husbandry, Science, Mathematics, and English, under a critic teacher, who, in turn, is responsible to the head of the



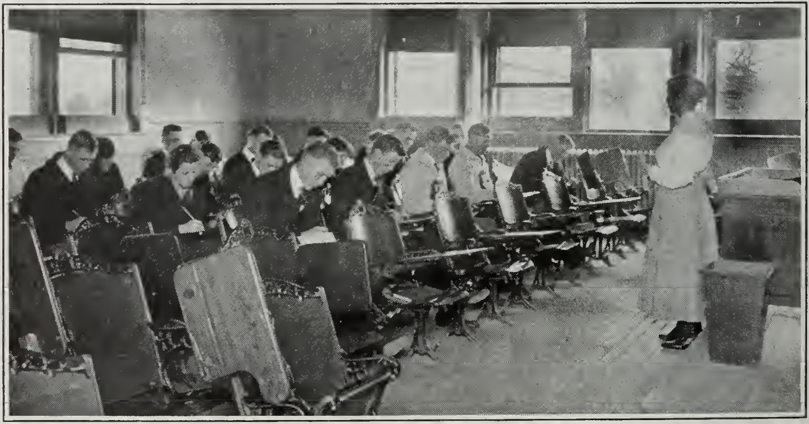
A Practice Teacher Giving Instruction in Entomology department and to the supervisor of teaching. Credit is given from three to five hours according to the amount and line of work taught. Miss Durward

803.—Methods of Teaching, with Observation.—A careful study of the fundamental principles of classroom instruction will be made. Classes in the School of Agriculture will offer abundant opportunity for illustrative material and observation. The course is designed to correlate as much as possible with the practice teaching which follows. The selection and organization of subject matter, preparation of lesson plans, methods of instruction and general classroom management will be studied. Open to juniors and seniors. Three hours attendance, three credits, each semester. Miss Durward

804.—Psychology.—This course gives by method of lectures, recitations, and experiments, a general outline of the essential facts and fundamental laws of mind and consciousness, and should be elected by those interested in the science of mental development. A student who expects to teach or carry on field work should take this course in the junior year. It cannot be elected earlier without the consent of the instructor. It must be taken in conjunction with Course 805. Three hours attendance, three credits, second semester. Mr. Avery

805.—Experimental Psychology.—Experimental Psychology must be taken in conjunction with Course 804. This course is an introduction to experimental studies in general psychology, and will include typical experiments in sensation, feeling, and movement, as well as practical investigations in the higher thought processes. Two hours attendance, two credits, second semester, junior year. Laboratory fee, $1.00. Mr. Avery

806.—General Educational Psychology.—The principles of psychology as applied to education and modern methods of teaching will be included in this course. Specific instruction in improved methods of self study and education will also be discussed. The subjects of moral training



A Young Woman Practice Teacher in Charge of a Class

A Group of Students Who Are Preparing to Teach

and the development of reasoning will be considered with regard to their practical applications. This course must be taken in conjunction with Course 807. Three hours attendance, three credits, first semester.

Mr. Avery

807.—Experimental Educational Psychology.—A general review of experimental methods in psychology is included in this course. In addition to simple tests of sensation, there will be a review of the various systems of intelligence tests. The student will be encouraged to devise possible tests for intelligence and for vocations. Two hours attendance, two credits, first semester. Must be taken in connection with Course 806. Laboratory fee, $1.00.

Mr. Avery

808.—History and Philosophy of Education.—This course deals with the history of culture and education as well as of definite school influences from ancient to modern times. It especially emphasizes the applications to modern times of the early developments. It also discusses briefly the trend of philosophical thought from ancient to modern periods. Five hours attendance, five credits, each semester.

Mr. Avery

809.—Rural Education and Rural Institutions.—In this course a study is made of the origin and development of the public school system in the United States, with particular reference to rural schools. The three chief forms of rural school administration—the district, township, and county systems, are studied, the consolidation of districts, centralization of schools, organization of rural high schools, the transportation of pupils and all forms of rural social center work are discussed; so also are such farmers' organizations as the Grange, Farmers' Unions and similar organizations. Text: "Rural Life and Education," Cubberly. Elective, two hours attendance, two credits.

Mr. Avery

Demonstration Course.—This course provides an opportunity for students to present in a public way, problems in Agriculture or Engineering Demonstrations that meet typical state conditions are planned and given by the individual student from the standpoint of the vocational teacher and extension worker. Required of all students who are training for teaching or extension work. Four hours attendance, two credits, second semester, senior year. Mr.————————

CORRESPONDENCE COURSES

810.—Correspondence Courses.—Seventeen home reading courses are offered. They deal with such subjects as the rural school, the farm and country home, elementary agriculture, animal husbandry, rural organizations, etc. They are intended primarily to encourage country folk to read the best books relating to rural life and its improvement. Some of these courses may be taken by students for college credit. In addition to these, one course in the History of Education is offered to students in non-residence. Full information will be furnished on application.
Mr. Sargent

811.—Course for Rural Teachers.—This course is designed to train those who are directly interested in rural school teaching. The course of study (given in full in the catalog of the School of Agriculture), includes a review of the common branches, with methods of teaching, special studies in agriculture and domestic science for the rural schools, together with observation and practice teaching in some of the neighboring districts. Students in the college who are unable to take the full course and who wish to take some review subjects in order to qualify for the county examinations, and who wish some special training for rural schools will find this course well adapted to their needs. Miss Durward

EXTENSION COURSES

812.—Rural School Improvement.—This work includes the whole field of rural education. Surveys are made and bulletins are published showing conditions in the rural and town schools of Colorado, and suggestions are made for their improvement. Educational campaigns are conducted in co-operation with superintendents and teachers for the purpose of bringing before the people the best methods of conducting schools.

Assistance is given in consolidating districts, centralizing schools, the organization of high schools, the transportation of pupils; suggestive plans are furnished for modern school buildings and for playgrounds and playground equipment. Rural lecture courses are arranged and all forms of community social center activities are encouraged and promoted.

The department, in co-operation with departments of other educational institutions and with other organizations, seeks to improve the school laws of the state by recommendations to the General Assembly, where the facts discovered and experience shows that changes would be beneficial.

Boys' and Girls' Clubs.—This work, carried on in co-operation with the United States Department of Agriculture, is in charge of a state leader and three assistants, who devote all of their time to the organization and supervision of the work. The club work forms a connecting link between the home work and the school. The local supervision is in charge of people of the community, an interested father or mother, the teacher, the rural pastor, or other person who assumes the leadership and directs the club. County agricultural agents and county superintendents help to promote and supervise the clubs within their counties.

Nine club projects are offered as follows: Corn, calf, bean, potato, pig, poultry, garden-canning, cooking, and sewing.

Thirty-six hundred boys and girls between the ages of ten and eighteen were enrolled in the clubs in rural communities in 1917. Lesson bulletins and record blanks are furnished to members, free of charge, by the Colorado Agricultural College.

The work promotes love of rural life; furthers scientific methods in field and home; develops business management; fosters community spirit; teaches thrift and industry; directs the mind toward higher education.

City Garden-Canning Clubs.—Several thousand children were enrolled in the garden clubs in the cities and towns of Colorado. There were twenty-one paid supervisors of this work. The city garden clubs have done much in the production and conservation of food. Unsightly back yards and vacant lots have been made to serve a useful purpose and add to the beauty of the town. Mr. Vaplon, Miss Sheridan

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VETERINARY MEDICINE

GEORGE H. GLOVER	Head of Division Professor of Theory and Practice
I. E. NEWSOM	Professor of Pathology
HARRY E. KINGMAN	Professor of Surgery
R. F. BOURNE	Professor of Physiology
W. J. SCOTT	Professor of Anatomy
W. H. FELDMAN	Instructor in Materia Medica

851.—Anatomy.—This subject is given in two hour periods in the laboratory. Complete dissections of the dog is begun. Six hours attendance, three credits, first semester, freshman year. Texts: Sisson's "Veterinary Anatomy," and Bradley's "Dissection of the Dog." Fee, $2.50.

Mr. Scott

852.—Anatomy.—Dissection of the dog is finished and complete dissection of the horse is begun. Six hours attendance, three credits, second semester, freshman year. Text: McFaydean's "Anatomy of the Horse." Fee, $2.50.

Mr. Scott

853.—Anatomy.—Dissection of the horse is continued. Six hours attendance, three credits, first semester, sophomore year. Fee, $2.50.

Mr. Scott

854.—Anatomy.—Dissection of the horse is finished. Comparative dissection of sheep, ox, pig, and possibly fowl. Ten hours attendance, five credits, second semester, sophomore year. Fee, $2.50. Mr. Scott

855.—Comparative Anatomy.—An abbreviated general study of the structure of the domesticated animals, special attention being given to the thoracic and abdominal viscera and to the limbs. Required of seniors in Animal Husbandry, six hours attendance, three credits, first semester. Text: Sisson's "Veterinary Anatomy." Fee, $2.50. Mr. Scott

856.—Histology.—A detailed microscopic study of the minute structure of normal animal tissues. Ten hours attendance, five credits, first semester, sophomore year. Text: Bailey's "Textbook of Histology." Mr. Bourne

857.—Physiology.—A study of the function of the normal tissues and organs of the animal body. Five hours attendance, five credits, second semester. Required of freshman Veterinary and senior Animal Husbandry students. Text: Fred Smith's "Manual of Veterinary Physiology." Prerequisites, 851 or 855. Mr. Bourne

858.—Chemical Physiology.—A study of the chemical constitution of tissues and fluids of the body and changes which they undergo in the normal animal. Three hours attendance, three credits, first semester, sophomore year. Texts: Holland's "Medical Chemistry," and Fred Smith's "Manual of Physiology." Prerequisite, 857. Mr. Bourne

859.—Physiology.—Continuation of 857 and 858. Special attention given to animal nutrition and locomotion. Three hours attendance, three credits, first semester, sophomore year. Text: Fred Smith's "Manual of Veterinary Medicine," supplemented by lectures. Mr. Bourne

860.—Physiology Laboratory.—Exercises in digestion, examination of urine and detection of poisons. Four hours attendance, two credits, second semester, sophomore year. Fee, $2.50. Mr. Bourne

861.—Materia Medica.—This subject treats of the occurrence, derivation, physical and chemical properties, physiological actions, official and other preparations, toxicology, and doses of drugs. Three hours attend-

Studying Anatomy of Animals

ance, three credits, first semester, sophomore year. Text: "Winslow's "Materia Medica and Therapeutics." Mr. Feldman

862.—Materia Medica.—Continuation of 861. Three hours attendance, three credits, second semester, sophomore year. Mr. Feldman

865.—Pharmacy.—Laboratory instruction in metrology, prescription writing, pharmaceutical operations, and preparations of official fluid extracts, tinctures, pills, ointments, liniments, biologics. Four hours attendance, two credits, second semester, junior year. Fee, $2.50. Mr. Feldman

866.—Therapeutics.—A consideration of the use of remedial agents in the treatment of disease. Given by lectures. Two hours attendance, two credits, first semester, senior year. Prerequisite, 862. Mr. Kingman

867.—Therapeutics.—Continuation of 866. Two hours attendance, two credits, second semester, senior year. Mr. Kingman

868.—Parasitology.—A study of the animal parasites affecting the domesticated animals, economical importance, measures of control and eradication. One laboratory and two class hours, three credits, second semester, sophomore year. Text: Kaupp's "Animal Parasites and Parasitic Diseases." Mr. Scott

869.—Meat Inspection.—A study of gross lesions of disease in food producing animals; federal, state and municipal rules and regulations governing sanitation, ante- and postmortem inspections; and routine inspection methods. Three hours attendance, three credits, first semester, senior year. Texts: U. S. B. A. I. regulations in effect, and Edelman's "Meat Hygiene." Mr. Feldman

870.—Pathology.—A consideration of disease processes in general, edema, inflammation, degeneration, regeneration and new growths. Ten hours attendance, five credits, first semester, junior year. Text: Mallory's "Pathologic Histology." Fee, $2.50. Mr. Newsom

871.—Bacteriology.—Recitations and laboratory work on the various phenomena exhibited by the bacteria and protozoa that are pathogenic for animals and man. Given in two hour periods in the laboratory. Ten hours attendance, five credits, second semester, sophomore year. Texts: Buchanan's "Veterinary Bacteriology," and Heinemen's "Laboratory Guide." Fee, $3.00. Mr. Newsom

872.—Autopsy.—Required of all senior and junior students whenever material is available. No credit. Mr. Newsom

873.—Laboratory Diagnosis.—Diagnosis of disease by examination of body fluids, microscopic examination of tissue and experimental inoculations. Special stress is given to analysis of urine, blood examinations, and detection of poisons. Four hours attendance, two credits, first semester, senior year. Fee, $2.50. Mr. Newsom

874.—Laboratory Diagnosis.—Continuation of 873. Four hours attendance, two credits, second semester, senior year. Fee, $2.50. Mr. Newsom

875.—Surgical Restraint.—Practical instruction in the restraint of animals during examination or operation. It includes the study of numerous makes and styles of casting harnesses, the demonstration of their uses and advantages; the tying of knots; making of halters, and numerous other appliances used in handling the domestic animals. Two hours attendance, one credit, second semester, freshman year. Mr. Kingman

876.—Surgery.—General surgery; consideration of the causes, course, symptoms, and treatment of surgical diseases of the domestic animals. Two hours attendance, two credits, first semester, junior year. Text: Frohner's "General Veterinary Surgery." Mr. Kingman

877.—Surgery.—Continuation of 876. Two hours attendance, two credits, second semester, junior year. Mr. Kingman

878.—Operative Surgery.—Consideration of operative technique for specific operations. Taught by lectures and demonstrations. Two hours attendance, two credits, first semester, senior year. Prerequisites, 876 and 877. Mr. Kingman

879.—Surgical Exercises.—Practice in surgical technique. Taken any time during the senior year when material is available. One credit. Fee, $2.50. Mr. Kingman

880.—Surgery.—Continuation of 878. Two hours attendance, two credits, second semester, senior year. Mr. Kingman

881.—Lameness.—The causes of lameness, art of diagnosis, and treatment. Three hours attendance, three credits, second semester, junior year. Prerequisite, 854. Text: Wyman's "Diagnosis of Lameness in the Horse." Mr. Kingman

882.—Obstetrics.—The diseases incident to reproduction, their causes, prevention, and treatment, supplemented by demonstrations in the clinic. Prerequisites, 854, 870. Three hours attendance, three credits, first semester, senior year. Text: Williams' "Obstetrics." Mr. Kingman

The Microscope is an Invaluable Aid

883.—Shoeing, Soundness and Military Practice.—The principles involved in shoeing for pathological conditions of the feet of horses. The examination of domestic animals for unsoundness. The duties of the army veterinarian. Two hours attendance, two credits, second semester, senior year. Mr. Kingman

884.—Canine Medicine.—Consideration of the breeds of dogs and cats, and their special requirements when diseased. One hour attendance, one credit, second semester, senior year. Mr. Kingman

885.—Clinic.—Junior students are expected to assist the seniors in their hospital and clinical work, which consists, among other things, in making daily examination of cases, and assisting in the dressing of wounds, and treatment of all cases in the hospital. Five hours attendance, two credits, first semester, junior year. Mr. Kingman

886.—Clinic.—Continuation of 885. Five hours attendance, two credits, second semester, junior year. Mr. Kingman

887.—Clinic.—Seniors are given preference in the ambulatory clinic and assisting with operations, diagnosis, and treatment of all cases in the hospital. Five hours attendance, two credits, first semester, senior year. Mr. Kingman

888.—Clinic.—Continuation of 887. Five hours attendance, two credits, second semester, senior year. Mr. Kingman

889.—Theory and Practice.—Diseases of a sporadic nature are first considered, including diseases incident to the respiratory, digestive, circulatory systems, etc. Living animals are utilized as far as possible in practical demonstration of various diseases, as are also specimens from pathology museum. Four hours attendance, four credits, first semester, junior year. Text: Hutyra & Marek's "Pathology and Therapeutics of the Diseases of Domestic Animals." Mr. Glover

890.—Theory and Practice.—Continuation of 879. Three hours attendance, three credits, second semester, junior year. Text: same as 889. Mr. Glover

891.—Theory and Practice.—Deals principally with infectious diseases, acute infectious exanthematic diseases, acute infectious diseases with localization of certain organs, infectious diseases with special involvement of the nervous system; chronic infectious diseases. Five hours attendance, five credits, second semester, junior year. Text: same as 889. Mr. Glover

892.—Theory and Practice.—Continuation of 891, and infectious diseases produced by protozoa. Five hours attendance, five credits, second semester, senior year. Text: same as 889. Mr. Glover

893.—Dairy Inspection.—The subject embraces the sanitary handling of milk, use of score card, diseases of dairy cows, adulteration of milk, effect of improper food on the dairy cow and her products, the tuberculin test, etc. Two hours attendance, two credits, second semester, senior year. Prerequisites, 892 and 868. Mr. Feldman

894.—Diseases of Live Stock.—This subject is devoted to a practical consideration of common accidents and ailments on the farm; the care of animals in health, and nursing in disease. Elective for Animal Husbandry students. Three hours attendance, three credits, first semester, senior year. Mr. Glover

895.—Agricultural Bacteriology.—A study of the morphology, physiology, and the other phenomena exhibited by bacteria that have special reference to milk and soil; to animal and plant diseases. Recitation and laboratory work given in two hour periods, in the laboratory. Elective for students in the agricultural group, ten hours attendance, five credits, second semester. Texts: Marshall's "Microbiology for Agricultural Students," and Heineman's "Laboratory Guide." Fee, $3.00. Mr. Bourne

896.—Household Bacteriology.—The preparation of culture media and the culture and observation of micro-organisms that are of special interest to students of home economics. Special stress is laid on molds and yeasts, the preservation of foods, sanitary milk and water supply. Recitation and laboratory work in two hour periods. Required of students in domestic science, ten hours attendance, five credits, first semester, senior year. Texts: Buchanan's "Household Bacteriology," and Heineman's "Laboratory Guide." Fee, $3.00. Mr. Newsom

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CONSERVATORY OF MUSIC

ALEXANDER EMSLIE, Director (Boston Conservatory of Music, Charles R. Adams, Boston), Voice Culture, Opera, Oratorio and Chorus Director.

HOWARD S. REYNOLDS (New England Conservatory of Music), Instructor in Violin, Harmony, Counterpoint, Composition, and Orchestra Director.

MRS. ALEXANDER EMSLIE (Simpson Conservatory of Music), Instructor in Piano and History of Music.

CLIFFORD S. DUNHAM (Iowa State Teachers' College), Instructor in Voice, Public School Music, and Chorus Director.

MRS. WILLIAM ELDRIDGE......Instructor in Piano

MISS RUTH L. DEMARAY (Park College, C. A. C. Conservatory of Music)..........Instructor in Piano

MISS ELLA LEONARD (C. A. C. Conservatory of Music) ....Orchestra Accompanist

ALFRED R. WESTFALL (Park College).. Instructor in Oratory

BENNETT W. FOLTZ...........Instructor in Cornet

W. E. FELDMAN............Leader of Military Band

MISS KATIE McKILLOP...................Registrar

The Conservatory of Music furnishes carefully prepared courses of study in each of the various branches taught, commencing with the most elementary in each specific branch and carrying its students through to the last stages of a finished musical education. Musical education in the West has steadily advanced so that it is now conceded that the advantages are as great as in the East.

Voice Culture.—In this department careful attention is given to the following: Correct tone placement, breathing, diction, phrasing, interpretation, style, etc. In the main, oral exercises are used, as it has been demonstrated over and over again that this method of teaching has produced the best results.

Oratorios and Cantatas.—The study of oratorios should be undertaken only by the most advanced pupils. The highest ambition of a singer should be to achieve distinction in this line of work. The following oratorios and cantatas may be studied: Handel's Messiah, Samson, Judas Maccabeus, and Jeptha; Mendelssohn's Elijah, St. Paul, Athalie, and Hymn of Praise; Haydn's Creation, Seasons, etc. A competent accompanist will be furnished at lessons in oratorio, free of charge.

School of Oratorio and Acting.—Operas, like oratorios, should be studied by advanced pupils. No singer can be fully equipped without being able to sing at least three operas. It brings to the voice a quality of tone which cannot be obtained from any other study of music. Pupils desirous of studying the art of acting in connection with the opera can do so, although it is not compulsory. The study of acting is offered so far as it relates to operatic rendition in order to give the pupils a graceful bearing on the stage or platform. As is well known, a singer's success is largely due to his or her personal appearance in opera, oratorio, or concert singing.

Voice Training for Children.—This training is given in classes and is invaluable to children. Much of the purity, beauty, and ease of tone in speech and song of the adult depends upon the care and guidance of the voice in childhood. Proper vocal exercises are given to develop a perfectly healthy throat—stress is laid upon the extreme delicacy of the vocal organs and the great danger of straining them by too loud singing, talking or laughing. There would be fewer harsh, metallic, nasal, guttural voices if parents could but realize the importance of such care.

Pianoforte.—It is a universally conceded fact that the study of pianoforte is and will continue to be a very essential part of a musical education. Considering the great advance made in this line of work during the last decade, a course of training which answered the needs of pupils a

Ladies' Glee Club

few years ago is entirely inadequate to present demands. While the outlined course is not obligatory, it will be used to meet the individual requirement. Special attention is given to musical touch, interpretation, ear training, musical analysis, rhythm, sight reading, and musical thinking. The famous Leschetizky, also the Mason touch and technique are employed in fundamental work.

Children's Work.—This work is given both privately and in class. The private work consists of the study of melody, rhythm, technique, and sight reading. Formed into classes, the pupils are taught by means of symbols. Interesting games make tedious drills subjects of pleasure; stories and songs stimulate ideas and musical intelligence. Mental drills are used to awaken musical thought; the eye is trained to read quickly and correctly musical notation. The muscles of the fingers, wrist, and arm are developed and strengthened by finger gymnastics and table technique, performed to the rhythm of delightful little songs. The sense of rhythm is developed by rhythmic exercises and songs. Marches and drills cultivate correct ideas of time. Pictures and verses teach of the great composers. Piano work illustrates the principles taught by games and exercises.

Demonstrations will be given occasionally to show parents and friends the results accomplished in this line of work.

Harmony, Counterpoint, and Musical History.—The study of Harmony proper begins with the consideration of the Triad. Following this comes the rules for connecting Triads; the inversion of Triads; consecutive unisons; fifths and octaves, chords of the seventh and their inversions; cadences; Italian, German, French, and Neapolitan sixth chords; chords of the ninth, eleventh and thirteenth; modulations; suspensions and retardations; open harmony and score writing. Following this Elementary Harmony comes a course of Counterpoint. This study must be directed in accordance with the needs of each individual pupil.

The course in the history of music consists of text-book and lectures on the development of music from early times to the present. This course is invaluable for a greater knowledge of either vocal or piano music.

Public School Music.—This course is designed for the training of supervisors of music in public schools. There is an incessant demand from all parts of the country for capable teachers especially qualified to supervise and teach music in the public schools. Such knowledge can only be obtained under the guidance of a teacher who has by personal experience familiarized himself with the peculiar demands of this line of work. Instruction is given both privately and in class. Those wishing to take the full course in one year are required to take four class lessons a week.

Sight Singing and Reading.—The work of this course consists in presenting the melodic and rhythmic elements of music with special reference to notation and its relation to music thinking and music reading. It seeks systematically to develop the ability to translate quickly the written symbols of music into melody and song, and aims especially to prepare for acceptable chorus choir work, as well as to lay foundation work for all music thinking.

Students' Recitals.—Recitals are given at intervals during the season. These recitals are a part of the regular work of the conservatory and are designed to give frequent opportunity to come before audiences. All students are therefore expected to take their turn when chosen and receive help and suggestions from the respective teachers. Parents and friends are welcome at these recitals.

Free Advantages and Privileges.—A large chorus will be formed for the purpose of rehearsing the choruses from the oratorios and operas. Those competent and willing to attend rehearsals regularly will be admitted free of charge. Ladies' and gentlemen's glee clubs will also be organized and will meet twice a week for practice. Only those students having good voices and who are good readers of music will be entitled to membership in these clubs.

Library.—The conservatory has over two thousand copies of music, by the best composers, all nicely bound and classified. Consequently it is able to rent to the students at a nominal price such music as will meet the demands of an entire course. Students desirous of buying their own music will be at liberty to do so.

TUITION

Fall Term of Fourteen Weeks

(For other terms, prices proportionate)

Vocal Lessons:	
Mr. Emslie	
Two lessons per week, twenty minutes	$28.00
One lesson per week, thirty minutes	$21.00
Mr. Dunham	
Public School music, two lessons per week of forty minutes, in class	$14.00
Private lessons, thirty minutes, two per week	$28.00
Piano Lessons:	
Mrs. Emslie	
Private lessons, thirty minutes, two per week	$25.20
One lesson per week, thirty minutes	$14.00
Mrs. Eldridge	
Private lessons, thirty minutes, two per week	$21.00
Private lessons, thirty minutes, one per week	$10.50
Miss Demaray	
Private lessons, thirty minutes, two per week	$21.00
Private lessons, thirty minutes, one per week	$10.50
Violin Lessons:	
Mr. Reynolds	
Two lessons per week, thirty minutes	$28.00
One lesson per week, thirty minutes	$14.00
Harmony, Analysis:	
Private lessons, one per week	$14.00
History:	
In class, one lesson per week	$14.00
Music Rent	$1.50

Degree Offered.—The degree of Bachelor of Music is conferred upon those finishing the required course of musical study.

Rules and Regulations.—Tuition is payable strictly in advance and the conservatory is in no way responsible for lessons lost through absence or tardiness of the pupils. Students entering after the opening of the term will be charged only from the date of entering. No reduction made for temporary absence of pupils or for lessons discontinued. Students leaving during the term will therefore not be entitled to have any money refunded; only in case of protracted illness will an exception be made in the above stated regulations.

Students pursuing any of the regular courses of study will be permitted to arrange for such instruction in music as in the judgment of the faculty will not interfere with their college work. Students in Home Economics and General Science courses are allowed five credits in music in the requirements for graduation. Students of the conservatory may take up such work in the College and the School of Agriculture as they are qualified for. The requirements for registration are the same as for regular students.

Students in the conservatory, not graduates of high schools, may, upon recommendation of the director of the conservatory and of the professor of modern languages, take up work in French, German or Spanish.

Course in Oratory.—The aim of this course is, first, to assist the student in finding himself; to aid him in achieving that which belongs, in some degree, to every person—the ablity to express himself, whether in public, or in private conversation; second, to develop and prepare the student to teach public speaking and debate, or to entertain, as well as impart knowledge to others from the platform as a lecturer or reader.

Courses carefully designed for results along all lines of expression will be available for the individual need.

Our methods for accomplishing these results cannot be stereotyped. We do not assume to tell the student at once, just what he must do, and all he must do. The most reliable asset that he has may be his individuality. In no case will this be ignored; but it will be kept constantly in mind by the teacher, and the very best method for the individual, adopted and followed.

Further information sent on request.

The Cadet Band

Student Life Among the Girls—Dining-rooms and Living Quarters

College Organizations

LITERARY SOCIETY

There is one college literary society which affords an opportunity for literary work and practice in debating and public speaking.

The Philo-Athenaeum Society meets Saturday evenings in Horticultural Hall. "The object of this society is to encourage free investigation, and to promote growth in literary composition, and readiness and fluency of speech."

Scribblers' Club.—This club is composed of students and faculty members of literary tastes and aspirations, its activities being confined to poetry and fiction. Meetings are held monthly, at which productions of members are read and criticised. Membership is limited to twelve. Students of the three upper classes are eligible.

THE DRAMATIC CLUB

The Dramatic Club of the Colorado Agricultural College has a limited membership composed of those who are interested in the study of good dramatic works and in the production of the best plays for amateurs. It has been the custom for several years to give three public entertainments during the year; in the fall a group of two or three one-act plays, in the midwinter a longer and more serious study, and in the spring a play suitable for outdoor presentation. All money above expenses is devoted to some other worthy student enterprise. The club holds membership in the Drama League of America, in this way keeping in touch with the work of other like organizations in the universities and colleges of the United States.

TECHNICAL SOCIETIES

The Home Economics Club.—All women students in the college are eligible to membership in the Home Economics Club. The programs offered present for consideration problems of the teaching field, findings of the research laboratory and extension activities of interest to the student in Home Economics. News from the field and reports on current literature are added topics of interest. Through the club is offered an opportunity for the study of the purpose and methods of work of the professional association.

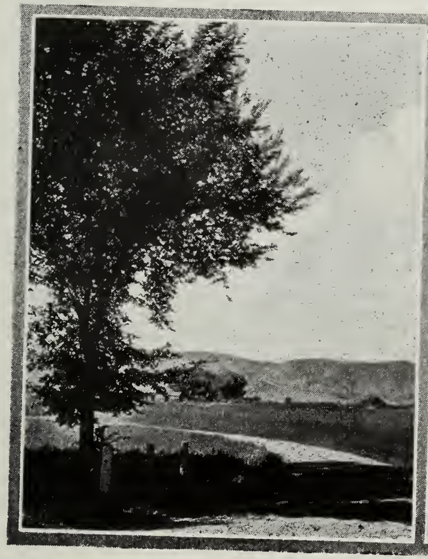
The Agricultural Club is a scientific society organized and maintained by the students of the Agricultural division. Meetings are held each Monday evening in Horticultural Hall. At these meetings subjects are discussed relating to the farm, orchard, garden, and experiment stations. Occasionally talks are given by the faculty and other lecturers. Students of good standing receive diplomas from the society upon graduation from the college. This is the only agricultural club on the campus that is open to all classes.

Engineering Society.—With "The encouragement of original research, the disseminaton of these results among its members; and the cultivation of a spirit of mutual assistance in the practice of the profession of engineering" as an object, the Engineering Society of C. A. C. was organized in the fall of 1902. The membership is composed of all students who are pursuing courses in engineering. Many talks of practical worth are given by the professors and engineering students at the meetings, which are held every Monday evening in the Electrical Engineering building.

Agricultural College Branch American Institute of Electrical Engineers.—The students of the Electrical Engineering Department have formed a Student Branch of the American Institute of Electrical Engineers. The proceedings of the American Institute of Electrical Engineers are read and discussed, and original papers are presented to the society by the students and the faculty members. All electrical engineering students are eligible for membership.

The Veterinary Medical Association was organized in the beginning of the fall term, 1907. This association is composed of veterinary students and college professors, and is devoted to the study of scientific problems along veterinary lines, and to the promotion of the social interests of the Veterinary Department. The association meets each Monday evening at seven o'clock in the Pathology building on Laurel Street. Graduates of the Veterinary Department are granted diplomas from this association only upon the condition that they have faithfully performed 70 per cent of the work required of them. Every student is expected to read at least two original papers on veterinary subjects each term.

Colorado Agricultural College Branch of American Society of Mechanical Engineers.—The senior and junior students of the Mechanical Engineering Department, by permission of the American Society of Mechanical Engineers, have formed a local student branch. The proceedings



The Mountains from the College Drive

The Spring in Front of Old Main

of the American Society of Mechanical Engineers are supplied the members of the branch. Discussion of the papers appearing in the transactions, original papers by the student members, and lectures by prominent engineers and the faculty members are features of the meetings.

Live Stock Club.—The Live Stock Club was organized in 1912 for the purpose of further developing the interest in live stock by discussing its problems and activities, especially from the viewpoint of the breeder and feeder. Interest in stock judging is further promoted by awarding a club trophy to the member showing the greatest proficiency in judging at the Western Stock Show in Denver.

Meetings are held every second Wednesday night in Agricultural Hall, the programs consisting of discussions with various successful farmers and stockmen from over the state, regarding conditions, methods, and results of various live stock enterprises.

Seniors, juniors, and sophomores of the Animal Husbandry Department are eligible to membership.

The Entomology Club.—The Entomology Club meets in the Zoology building the second and fourth Tuesdays of each month. All students interested in the science of entomology are entitled to membership. The purpose of the club is to further the interest in this science, and to keep in touch with developments along entomological lines.

The Horticultural Club.—The C. A. C. Horticultural Club was founded in the fall of 1913. The membership is limited to students of the senior and junior classes, majoring in horticulture. The purpose of the club is to promote a deeper interest in horticulture. Meetings are held on the first and third Tuesdays of each month, at which time current literature is reported and discussed; also discussion of some topic of general interest. There are no officers, the faculty members acting as a sort of advisory board.

Forest Club.—A Forest Club of about sixteen active members meets on alternate Wednesdays between 7:15 and 8:15 p. m. Papers are read, or addresses are given on the more popular phases of forestry in order to maintain the interest in the subject among the members of the two lower classes, or to inform prospective forestry students concerning the nature of forestry. Frequently officers from the United States Forest Service and men engaged in the lumber business are secured to give these addresses.

ASSOCIATED STUDENTS

Officers—1917-1918

JOHN G. NESBIT	President
WM. YETTER	Vice-President
RUTH FULLER	Second Vice-President
SAMUEL COCHRAN	Secretary
S. L. MACDONALD	Activity Manager

During the latter part of the year 1916-1917, all student activities were reorganized under one constitution. This constitution provides that each student upon registering in the college shall pay a fee of $7.00 and receive therefor a ticket of admission to the privileges of each activity. The constitution also provides that these activities shall be governed by managing committees. The following list shows the activities co-operating under the constitution with the personnel of their management for the year 1917-1918:

Activity	Faculty Members	Student Members
Dramatics	Miss Durward	Wayne Akin Wm. Spangler
Debating	Mr. Westfall	Sigmund Landers Mary Schofield
Glee Clubs	Mr. Emslie	Mildred Dickinson R. James
Cadet Dances	Mr. Jones	B. Miner Leon Quinlan
Women's Athletics	Miss Layman	Gladys Argall Bernice Slockett
Men's Athletics	Mr. Macdonald Mr. Morrill Mr. Hughes	Carl Doehling Bill Nye
Collegian	Mr. Coen	J. G. Nesbit, Manager B. Flanagan, Editor-in-Chief
College Day	Mr. Goeder	Gladys Argall Dorothy Martin
Lyceum	Mr. Johnson	P. L. Randolph
Yell Leaders		Roy Foard Chas. Davis P. L. Randolph Arthur Rosenthal

STUDENT COUNCIL

JOHN NESBIT..............................President
SAMUEL COCHRAN...........................Secretary

The Student Council was organized in 1912. Its object is to consider the various subjects of interest to the student body; to recommend lines of action in the various student activities, and to consider misunderstandings between the faculty and the students. It is in the nature of an executive committee to the Associated Students. It is composed of one freshman, two sophomores, three juniors, and three seniors, who are elected by the student body. There is, also, one member of the faculty, known as the faculty advisor, on whom the Council may call for assistance and advice.

MUSICAL ORGANIZATIONS

The Military Band of thirty pieces is an important adjunct to the cadet battalion. This organization receives instruction by a competent band master, throughout the college year, and ranks among the best concert bands in the state. The college band takes part in all the local parades, military and civil, renders monthly concerts in the chapel during the second semester, and takes part in the program of commencement week. The band is subject to the call of the president for special occasions that may occur from time to time.

Men's and Girls' Glee Clubs, under the care of the director of the conservatory, add much to the strong musical combination of the school. These organizations present rare opportunities for musical culture, which should assume an important part in a collegiate education.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION

Officers, 1917-1918

LINNE KLEMMEDSON	President
WAYNE AKIN	Vice-President
MARK BLISS	Secretary
S. I. ROSS	Treasurer
H. L. SEAMANS	General Secretary

The Young Men's Christian Association stands for the highest ideals in college life. Habits formed during the college life tend in large measure to shape the students' life course. Each year the Colorado Agricultural College sends forth its quota of trained leaders. This leadership the Y. M. C. A. seeks to strengthen.

Object.—The Association has its existence in the belief that the most effective life is based on the principles exemplified in the life and teachings of Jesus Christ. To bring young men into vital contact with that life is the fundamental purpose of the association's activities.

Social Activities.—The association serves the student in practical ways. If possible, it gets in touch with him even before he leaves home for Fort Collins. Upon arrival, he is met by members of the New Student Committee. A friendly greeting and an offer of assistance help to break the spell of strangeness and make the new man feel at home in his new surroundings. Rooms are located, boarding places found, assistance given in regard to studies—in fact, everything possible of real service to a new man.

During the first week of school, "Stag" socials are held, which bring all the men together for a social time and broaden acquaintance and promote good fellowship. The Y. M. C. A. and Y. W. C. A. co-operate

A Campus Picture in Nature's Framework

in holding a Y. M.-Y. W. mixer, or all-student social once each month. This affords the students an opportunity to meet in a clean, democratic atmosphere.

Employment.—Among the most helpful features of the association is its Employment Department. No fee is charged. Any student desiring to earn all or a part of his expenses is welcome to avail himself of the help of this department. During the past year, students were enabled by this means to earn more than $5,500.

Religious Activities.—The religious work of the association includes Bible, mission, and rural life study courses, arranged especially for college men. These classes meet each week in the rooms of the men, in the Y. M. C. A. rooms, in the fraternity houses, or in connection with the Sunday schools. The fellowship in these small groups with other young men who are fighting life's battles, is of great value to the young man. The committee force meets each week for supper. All members meet once a month. Inspirational addresses and discussions add to the spirit of the meetings. A series of Sunday afternoon meetings is held. Young men are helped to form and hold to their standards of Christian manhood.

Information.—The General Secretary is the employed officer of the association and gives all his time to the work. He desires to be of service in every way possible. Feel free to write him for any desired information.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

Officers, 1917-1918

LAURA MASON	President
HELEN HALE	Vive-President
MARY GREENWOOD	Secretary
CHARLOTTE SCILLEY	Treasurer

The Young Women's Christian Association has had a place in this college since 1892. It is a part of the National Young Women's Christian Association, and of the world's organization, and its members feel the broadening effect of this union in spirit with the student women of the world.

Its purpose is to develop, during college days, by intercourse with strong Christian women from all the various churches, the vital religious life which finds its expression in service.

During the opening week of the college year, the association girls meet the new girls at the trains, and give them welcome, and such assistance as they may need in finding the rooms recommended to each from the list of desirable homes filed with the Dean of Women. On Sunday, they are introduced to the church of their preference by the girls of their own denomination, and as the weeks go by, the new girls are helped, guided, and befriended. The association continues its social service during the year in sending flowers to the sick, providing wholesome fun in social afternoons or evenings at the college, furnishing a Rest Room for women, in Guggenheim Hall, and in such other ways as are from time to time possible.

Bible and mission study classes are provided, and regular mid-week devotional services extend further opportunities for religious growth dur-college days.

College Publications

In order that the editors, assistants, and business managers of student publications may receive the maximum training this work affords, the faculty committee on Student Publications, lends its assistance whenever it is needed. Under certain conditions, the editor-in-chief of The Collegian may receive each semester, two credits toward graduation, for work done as editor. Under similar conditions the editor-in-chief of the Silver Spruce may receive two credits the second semester.

The Rocky Mountain Collegian is a weekly publication put out by the student body, and it is the official publication of that body. It has as its aim the representation, in their true light, of the sentiments of the student body.

The officers are elected in the spring of each year to serve for the following year. The officers thus elected have full control of all matters pertaining to its publication.

Staff for Current Year

BERNARD FLANNAGAN	Editor-in-Chief
FOSTER HUMPHREY	Assistant Editor
JOHN NESBIT	Business Manager
JOHN FITZSIMMONS	Local Editor
PEGGY BOYD	Society Editor
DOROTHY MARTIN	Literary Editor
RAYMOND McMILLEN	Athletic Editor
MIRIAM HAYNES	Alumni Editor
BLANCHE HAMMOND	Exchange Editor

The Silver Spruce is a volume published annually by the junior class. It is a neatly printed, well bound book of two hundred or more pages. Its purpose is to give an accurate review of the school year in its every respect.

Staff for Current Year

*SIGMUND LANDERS	Editor-in-Chief
ELIZABETH D'AMOUR	Editor-in-Chief
WALTER STRATTON	Associate Editor
ROY FOARD	Business Manager
P. L. RANDOLPH	Advertising Manager
HARRY PARKER	Photographer
WILLIAM WONDERS	Assistant Photographer
MRS. MONA RUTTENCUTTER	Artist
ANNE CORREY	Society Editor
GRACE BREED	Assistant Literary Editor
ERNEST NEWLANDER	Athletic Editor
RUTH FULLER	Joke Editor

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*Resigned.

The Extension Service*

H. T. FRENCH................................Director

The Extension Service is definitely organized for carrying out the provisions of the Smith-Lever Act, in co-operation with the United States Department of Agriculture, and for carrying the results of the work of the Experiment Station and of the college in general to the people of the state. All the extension activities of the United States Department of Agriculture in Colorado, as well as all extension activities of the State Agricultural College, are under the direction of the Director of Extension.

Extension work is now being carried on under the following lines: County agricultural agents, boys' and girls' clubs, home economics demonstrations, farm management demonstrations, animal husbandry, markets and marketing, and general extension.

County Agricultural Agents.—Twenty-four county agricultural agents are at present serving the people and communities in twenty-four counties of the state. A county agricultural agent might well be called an efficiency expert in community building, for he serves his entire community in many ways. A state leader and two assistant state leaders are in immediate charge of this work. Several emergency demonstration agents have been appointed to meet the present-hour demands for increased work in food production and food conservation.

Farm Management Demonstrations.—It is the purpose of this project to demonstrate to the farmer that farming is a business just as much as any other commercial enterprise, and that only by the application of

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*For Extension Service Staff see page 18.

County Champions of Boys' and Girls' Clubs From All Over Colorado Attending Farmers' Congress business principles can it be made completely successful. Extensive surveys are made of the farms of the state, compilations of records thus secured are made, and the farmers are then shown the condition of their affairs from a business point of view. Farm record clubs have been organized, which are supervised by the farm management demonstrator in cooperation with the county agents. This work has been taken up in connection with agricultural instruction in several of the high schools.

Animal Husbandry.—The extensive live stock industry of the state and the rapidly growing interest in dairying demand the constant services of a trained specialist in animal husbandry such as is maintained by the Extension Service. Direct, practical lectures and demonstrations are conducted by this specialist, who also serves as live stock judge at many of the state fairs.

Markets and Marketing.—The farmers problems are only half solved when he harvests his crop; the finding of a profitable market, is, indeed, frequently the most important problem. Through co-operation between the Extension Service, the Experiment Station and the Office of Markets and Rural Organization, and United States Department of Agriculture, a specialist is maintained, who is devoting all his time to assisting the farmer with this part of his farming operations.

Extension Schools.—A demand has arisen during the past few years for more complete courses for farmers and farm women than can be provided in the ordinary farmers' institute. To meet this demand, extension schools are organized, which are conducted for a week at a time and for which the farmers pay a fee to defray the expenses incurred. This work is under the immediate supervision of the Assistant State Leader of County Agricultural Agents.

Home Economics Demonstrations.—Three rural home demonstration agents are employed at present, and two urban or city agents under the emergency food conservation bill. A state leader and these agents are giving all their time to this work, giving lectures and practical demonstrations to farm women and to city women of the state, along the line of home improvement, stressing particularly the problems of food conservation and production. The head of the Home Economics Department of the College has charge of the work in the cities.

Boys' and Girls' Clubs.—This work, carried on in co-operation with the United States Department of Agriculture, is in charge of a state leader and three assistants who devote all of their time to the organization and supervision of the work. The club work forms a connecting link between the home work and the school. The local supervision is in charge of people of the community, an interested father or mother, the teacher, the rural pastor or other person who assumes the leadership and directs the club. County agricultural agents and county superintendents help to promote and supervise the clubs within their counties.

Nine club projects are offered as follows: Corn, calf, bean, potato, pig, poultry, garden-canning, cooking, and sewing.

Thirty-six hundred boys and girls between the ages of ten and eighteen were enrolled in the clubs in rural communities in 1917. Lesson bulletins and record blanks are furnished to members free of charge, by the Colorado Agricultural College.

This work promotes love of rural life; furthers scientific methods in field and home; develops business management; fosters community spirit; teaches thrift and industry; directs the mind toward higher education.

City Garden Clubs.—Several thousand children were enrolled in the garden clubs in the cities and towns of Colorado. There were twenty-one paid supervisors of this work. The city garden clubs have done much in the production and conservation of food. Unsightly back yards and vacant lots have been made to serve a useful purpose and add to the beauty of the town.

Publications.—During the fiscal year, which began July 1, 1916, fourteen bulletins were published by the Extension Service. These bulletins were devoted to the following subjects: Dairying, home improvement, hog raising, poultry raising, corn growing, prevention of smut in grain, and the work of the boys' and girls' clubs. They were written in a practical vein with the idea of giving the reader usable information free from technical detail. The boys' and girls' club bulletins were published to provide material for their club study and work. The annual report of the Service is included in these publications.

GENERAL EXTENSION

In addition to the various lines of extension work done in co-operation with the United States Department of Agriculture and with the Smith-Lever fund, much other work is done, the expenses of which are defrayed out of state funds.

Farmers' Institutes.—Large demands are made upon the extension Service for assistance in the organization and conduct of farmers' institutes. These institutes are usually held under the auspices of farmers' organizations and the Extension service, and an attempt is made to give the practical application of modern methods as well as the technical.

Colorado Farmers' Congress.—This organization has, since its establishment, worked in close co-operation with the Extension Service. The annual meeting is held in January of each year at the State Agricultural College, and very effective work is resulting from the co-operation which exists between this body of farmers and the Extension Service.

Publications.—News Notes is the principal publication of this branch of the Extension Service. It is a weekly clip-sheet carrying timely articles written by the faculty of the college expressly for publication. News Notes is sent to every newspaper in Colorado and to the leading agricultural papers of the country, thus making avaliable to the people a vast fund of valuable information. A number of Extension Bulletins are published each year, in which an effort is made to place before the farmers concise information with as few technical details as possible.

Special Services.—The college is glad to comply, so far as conditions and funds will permit, with requests for advice and assistance upon the problems of individual farmers and to supply speakers for local and county granges, agricultural picnics, and judges and speakers for local and county fairs. Local and traveling expenses of this service must be met by the localities benefited. During the year of 1917, 24,000 letters were written in answer to requests from Colorado people for information. Inquiries for service of this kind should be addressed to the Director of the Extension Service, Colorado Agricultural College, Fort Collins, Colorado.

Number of Persons Reached Last Year

The following table shows the number of persons reached by the various lines of service during the fiscal year ending June 30, 1917:

	Attendance
Farmers' Institutes and Extension Schools (324)	25,148
Farmers' and Housekeepers' Short Course	380
Colorado Farmers' Congress (delegates)	194
Meetings held by County Agricultural Agents (attendance)	36,858
Boys' and Girls' Clubs (members)	4.891
Farm Records taken	632

The Agricultural Experiment Station*

C. P. GILLETTE............................Director

The Experiment Station is an integral part of the Agricultural College. It has for its purpose the betterment of the agricultural conditions of the state. It does its work by carrying on, in the various scientific departments of the college, such lines of research and experimentation as will bring to light new facts, and determine the correctness or fallacy of old ideas in order that farming practices may be put upon a more sound and profitable basis.

The results of investigations are published in bulletin form and are mailed free to all residents of the state who ask for them. Usually about ten to twelve of these bulletins are published each year.

The Station work is supported in part by federal and in part by state funds. From the general government, the Station receives $15,000.00 a year from the Adams Act, which can be spent only in the most technical lines of research that are first approved by the office of the Experiment Stations of the U. S. Department of Agriculture, and $15,000 a year from the Hatch Act, which must also be spent in research and investigation, but not necessarily of as technical a nature as those carried on under the Adams Act.

The state gives the Experiment Station an annual levy of .0425 of a mill on the assessed valuation of its property, which, at the present time, furnishes a fund of about $50,000.00. Altogether, then, the Experiment Station has a dependable fund of about $80,000.00 with which to carry on its investigations. At the present time, the Federal Department of Agriculture, through its various bureaus, is putting about $10,000.00 a year into lines of co-operation with the Colorado Station.

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*For Experiment Station Staff, see page 17.

As all this scientific work is carried on in the college departments where student instruction is given, it has a very direct and potent effect upon the quality of instruction given, and the interest that the student will take in it.

The results of investigations and of related information have been published in 238 bulletins and numerous pamphlets and circulars, which are sent free, without postage, through the mails, by authority of Congress, under the signature of the director. These bulletins cover investigations with irrigation, sugar beets, alfalfa, potatoes, grains, stock feeding, dairying, soils, weeds, fruits, cantaloupes, plant diseases, injurious insects, etc.

One of the principal means of measuring water, adopted throughout the western United States and adjacent countries is the result of the studies of our Experiment Station. The investigations in irrigation were the basis of the successful defense of the State of Colorado in the famous Kansas vs. Colorado suit over the waters of the Arkansas River. If Colorado had lost this suit, it might have prevented almost entirely the further development of irrigation in the Western United States.

The studies of the codling moth, plant lice, leaf-roller, and other pests, have resulted in intelligent control of these important injurious insects. The station has been instrumental in the development of superior varieties of grain, alfalfa, canteloupes, etc., adapted to Colorado conditions. It has also given considerable attention to dry farming on the plains and has been a help to settlers there. It has also determined the causes of the so-called "brown spots," or "black alkali," of some of our soils and the methods of reclaiming them. The results of this investigation will prove of great benefit to the agriculture of the West. The work made possible by the state appropriations has helped to develop the potato industry of the state and to make it more profitable. The station employees answer thousands of letters of inquiry annually.

The Experiment Station, through the Department of Botany, is charged with the enforcemnt of Colorado's Pur Seed Act, which has for its object to improve the crops grown by enabling all to secure certified and tested seeds of the varieties desired.

A leaflet giving the names of available bulletins that have been printed, will be furnished upon application to the director. Available bulletins will be sent on request.. Future publications will be sent to those who make a request to be placed on the mailing list.

Alphabetical List of Students

Abbreviations: Numerals denote the year of classified students; U. denotes unclassified; An. H., Animal Husbandry; Agro., Agronomy; A., Agriculture; C. E., Civil and Irrigation Engineering; G. S., General Science; H. E. Home Economics; Eng., Engineering; E. E. Electrical Engineering; Ent., Entomology; For., Forestry; H., Horticulture; M. E., Mechanical Engineering; Vet., Veterinary Medicine.

Name	Year	Course	Address
Abrams, Abram H.	1	A.	Berthoud
Adams, Donald	1	A.	Ouray
Adams, Otto V.	4	C. E.	Fort Collins
Akin, Wayne	4	An. H.	Fort Collins
Akin, Julia	1	H. E.	Fort Collins
Alcorn, Ruth	1	H. E.	Torrington, Wyo.
Alexander, Harold D.	4	An. H.	Reno, Ill.
Allin, Burton L.	1	Eng.	Steamboat Springs
Ammann, Emil	2	Eng.	Lamar
Anderson, Everett K.	2	Vet.	Denver
Anderson, Lionel C.	3	For.	Fort Collins
Andrews, Ivan L.	U.		Denver
Annand, James W.	2	Vet.	Hotchkiss
Annand, Percy	2	A.	Hotchkiss
Argall, Gladys	4	G. S.	Denver
Atteberry, James C.	1	A.	Farmington, N. M.
Ault, Harold E.	1	A.	Fort Collins
Aylard, Merle	U.		Alamosa
Bader, Louise	1	H. E.	Berthoud
Bader, Orla W.	1	A.	Loveland
Bagley, Louise	2	H. E.	Pueblo
Baker, Bruce	3	Vet.	Meeker
Ball, Walter S.	1	A.	Manzanola
Bangs, Miriam B.	1	H. E.	Denver
Bardsley, Irene	1	H. E.	Denver
Barr, George	3	An. H.	Milliken
Barton, Dorothy	3	H. E.	Pueblo
Bass, Bobbie	U.		Fort Collins
Bebee, Hazel	2	H. E.	Cripple Creek
Beck, Myrl E.	1	A.	Ault
Becker, R. A.	2	A.	Fort Collins
Beeson, Willis E.	3	Vet.	Trinidad
Benell, Orril	2	H. E.	Fort Collins
Bennett, Aubrey T.	2	A.	Denver
Bent, S. Inez	1	H. E.	Boulder
Best, Harold	1	A.	Boulder
Bills, Ellis	1	A.	Eaton
Binford, Ruth E.	1	H. E.	Fort Collins
Binford, Berda B.	3	G. S.	Denver
Binkley, Lucy C.	3	H. E.	Wheatridge
Black, Jesse C.	3	Agro.	Whitehall, Mont.
Blanch, John G.	2	A.	Denver
Blaney, Frank W.	1	Vet.	Denver
Blinn, Warren C.	4	Agro.	Rocky Ford
Bliss, Clarence	4	Agro.	Greeley
Bliss, Elmer E.	U.	U.	Greeley
Bliss, Mark	2	A.	Greeley
Bode, Carl	1	Eng.	Pueblo
Bond, Ruth R.	1	H. E.	Colorado Springs

Name	Year	Course	Address
Borresen, Victor A. E.	2	Eng.	Fort Collins
Bowman, Louise	1	H. E.	Fort Collins
Boyd, Zeta	3	H. E.	Denver
Breed, Grace L.	3	H. E.	Aurora
Bresnahan, Charles A.	1	A.	Ault
Brickson, Rolf A.	3	E. E.	Telluride
Briggs, Walter	U.		Fort Collins
Brinley, Floyd J.	3	Ent.	Fort Collins
Bristol, Mildred	2	H. E.	Fort Collins
Brolliar, Emery	2	A.	Fort Collins
Brown, Floyd	3	An. H.	Littleton
Brown, Hallett	2	Eng.	Fort Collins
Brown, Mary E.	2	H. E.	Denver
Brown, Thomas R.	1	A.	Denver
Brown, Weltha	2	H. E.	Paonia
Brubaker, Otto C.	2	A.	Victor
Buck, Harold J.	1	Vet.	Denver
Buckman, Caroline M.	3	H. E.	Denver
Bunte, Chester B.	2	Vet.	Stillwater
Burger, Ray Maxwell	2	A.	Golden
Burtis, Earl F.	4	Agro.	Akron
Burton, Bertha	4	H. E.	Longmont
Burton, Margaret	4	H. E.	Pueblo
Burwell, Dawson H.	3	An. H.	Denver
Cahill, Elizabeth L.	2	H. E.	Fort Collins
Campbell, Colin P.	1	A.	Salida
Campbell, Mary I.	1	H. E.	Derby
Cameron, Bruce M.	2	A.	Barr Lake
Cameron, Mable	3	Agro.	Barr Lake
Cameron, Margaret M.	1	H. E.	Barr Lake
Carpenter, Clarice E.	2	H. E.	Overton, Neb.
Carlton, Ernest W.	2	Eng.	Fort Collins
Carr, George H.	4	Vet.	La Jara
Carter, Vera	4	H. E.	Fort Collins
Chalmers, Kenneth W.	1	A.	Hartsel
Chisholm, Francis	4	H.	Del Norte
Churchill, Harold F.	1	A.	Fort Collins
Clancy, Catherine R.	2	H. E.	Denver
Clarke, Helen	3	H. E.	Akron
Clendenning, James H.	1	A.	Boulder
Cobbott, Norman G.	1	Eng.	Cedaredge
Cochran, Margaret A.	2	H. E.	Fort Collins
Cochran, Samuel A.	3	An. H.	Fort Collins
Cocks, Verne	1	Eng.	Colorado Springs
Collier, Malcolm	1	A.	Denver
Collins, Lawrence	4	An. H.	Denver
Collopy, Laura	3	H. E.	Fort Collins
Comer, Harry L.	2	A.	Rocky Ford
Cooper, George W.	4	Vet.	Denver
Correy, Anna H.	3	H. E.	Fort Collins
Correy, John M.	1	Eng.	Fort Collins
Cosgrove, Eugene M.	U.		Calgary, Canada
Crain, Ena M.	2	H. E.	Cheyenne, Wyo.
Crane, Florence L.	4	H. E.	Fort Collins
Crawford, Lucile S.	U.		Glenwood Springs
Cross, Helen	3	H. E.	Loveland
Crowe, Lawrence K.	1	A.	Wheatridge
Currie, Ethel	3	H. E.	Fort Collins
Currie, Mamie E.	3	H. E.	Fort Collins

Name	Year	Course	Address
Curry, Carolyn B.	1	H. E.	Pueblo
Curtiss, John W.	1	A.	Paonia
D'Amour, Elizabeth H.	3	H. E.	Denver
D'Amour, Marie	1	H. E.	Denver
Damm, Hilda	1	H. E.	Fort Collins
Dasef, Wallace N.	1	Eng.	Johnstown
Davies, Percy	1	A.	Scottsbluff, Neb.
Davis, Charles	2	A.	Denver
Davis, Frank E.	1	Eng.	Arvada
Dawson, Sheldon E.	2	A.	Fort Collins
Dean, Marshall S.	U.		Las Animas
Deffenbaugh, Vestal	U.		Fort Collins
Dewey, Clarence F.	2	A.	Denver
Dewey, Harriet Cornelia	3	H. E.	Kalamazoo, Mich.
Dibble, Gaylord R.	1	Eng.	Silt
Dickerson, Jennie E.	4	H. E.	Las Animas
Dickinson, Mildred	3	H. E.	Fort Collins
Dickson, George B.	2	A.	Steamboat Springs
Dimmitt, George Z.	3	Ent.	Denver
Doehling, Carl H.	4	C. E.	Denver
Dunlap, Bernice	2	H. E.	Aurora
Dunlap, Gladys C.	1	H. E.	Aurora
Dusell, Ernestine	4	H. E.	Denver
Eakins, Mrs. Mary V.	U.		Fort Collins
Easterling, Herbert	2	Vet.	Fort Collins
Eberle, Minnie	1	H. E.	Craig
Edgar, Mildred	2	H. E.	Ordway
Edwards, Howard	1	A.	Denver
Emmerich, Regina	U.		Denver
England, Bessie	3	H. E.	Fort Collins
English, Agnes	2	H. E.	Greeley
Evans, Samuel H.	3	C. E.	Denver
Feldman, Gordon G.	1	Vet.	Paonia
Ferguson, F. Everett	1	A.	Fort Collins
Finger, Dorothy	U.		Fort Collins
Fish, Arthur R.	2	A.	Wheatland, Wyo.
Fisher, Dwight A.	1	Eng.	Fort Collins
Fitch, Mable G.	U.		Norwood
Fitzsimmons, John R.	2	A.	Denver
Flanagan, Bernard	4	C. E.	Victor
Foard, Roy W.	3	Agro.	Doniphan, Mo.
Foltz, Lucille E.	3	H. E.	Fort Collins
Foster, Frances	1	H. E.	Colorado Springs
Fountain, Lillian	4	H. E.	Alamosa
Fountain, William	1	A.	Denver
Fredlund, Reuben S.	1	Vet.	Durango
Freeman, Walter Russell	2	A.	Denver
Frisbie, Walton H.	U.		Fort Collins
Fuller, Ruth	3	H. E.	Denver
Fulton, Harriet L.	2	H. E.	Dickey, Idaho
Galbraith, Margaret	1	H. E.	Fort Collins
Garrett, Helen	2	H. E.	Fort Collins
Gates, Rufus C.	3	An. H.	Scottsbluff, Neb.
Gavin, Charles G.	1	A.	Eaton
Gaymon, Harold L.	4	H.	Denver
Gelwick, Calvin C.	U.		Sterling
Gilbert, Paul L.	1	A.	Sterling

Name	Year	Course	Address
Gildersleeve, Robert M.	1	Eng.	Denver
Godfrey, Rae T.	1	Eng.	Denver
Goellert, Emma	1	H. E.	Colby, Kans.
Goff, John A.	1	Eng.	Colorado Springs
Graham, James	2	Eng.	Loveland
Grandy, Max C.	4	An. H.	Pueblo
Granovsky, Alexander N.	4	Ent., Agro.	Kiev, Russia
Grant, Lawrence E.	1	Eng.	Leadville
Grant, Edith	1	H. E.	Grand Junction
Grant, Winifred	3	H. E.	Denver
Grattan, Worthin	4	An. H.	Broomfield
Graves, Thomas C.	1	A.	Montrose
Gray, Edith	U.		Gunnison
Greenamyre, Dorothy	U.		Fort Collins
Greenwood, Mary L.	2	H. E.	Hotchkiss
Griswold, Estelle	3	H. E.	Fort Collins
Griswold, Frank	2	A.	Denver
Gross, Max	1	A.	Lyons
Hadley, Beulah V.	U.		Montrose
Hale, Helen	4	H. E.	Bellvue
Ham, Della P.	U.		Hasty
Ham, Inez	U.		Hasty
Hammond, Blanche	4	H. E.	Mancos
Hammond, Dorothy	4	H. E.	Denver
Hansen, Frank W.	2	A.	Denver
Hansen, M. Leonora	1	H. E.	Brush
Harding, Wendell P.	U.		Delta
Hardman, Lillian H.	1	H. E.	Manzanola
Harger, Carl W.	1	Eng.	Denver
Harley, Clarence F.	1	A.	Rocky Ford
Harpster, Margaret H.	1	H. E.	Pueblo
Hartshorn, Duane	1	A.	Longmont
Harvey, Grace	4	H. E.	Grand Junction
Hashinzade, Jalil Khan	1	A.	Tabriz, Persia
Hathaway, Vera M.	1	H. E.	Pueblo
Hay, John L.	2	A.	Denver
Hayes, Helen L.	3	H. E.	Victor
Haythorn, Hattie	3	H. E.	Eaton
Hei lee, Alma	4	H. E.	Denver
Heisen, Olga M.	2	H. E.	Denver
Helbig, Douglas W.	1	A.	Denver
Hendricks, Walstein H.	4	Vet.	Fort Collins
Henry, Elsa M.	2	H. E.	Denver
Hesser, Leonard J.	U.		Avondale
Heustis, Ruth	1	H. E.	Colorado Springs
Hiner, Bessie	2	H. E.	Fort Collins
Hiner, Mildred	2	H. E.	Fort Collins
Hoerner, John L.	3	Ent.	Las Animas
Hollmer, Irene M.	4	H. E.	Denver
Hopper, Everett R.	3	Agro.	Fort Collins
House, Edward C.	1	Eng.	Fort Collins
House, Miles F.	2	A.	Terre Haute, Ind.
Hover, Eugene	4	Vet.	Lamar
Howard, Ella M.	3	H. E.	Breckenridge
Howard, June R.	1	H. E.	Greeley
Howard, Morton	1	A.	Scottsbluff, Neb.
Hughes, Clay	1	Eng.	Hugo, Okla.
Hughes, Rodney	1	A.	Hugo, Okla.
Humphrey, Foster W.	4	Ent.	Pueblo

Name	Year	Course	Address
Humphreys, Wilford G.	1	A.	Denver
Hutchings, Ernest W.	2	A.	Fort Collins
Ickes, Mary H.	3	H. E.	Fort Collins
Igo, Jerome	2	A.	Fort Collins
James, Clarence	U.		Lamar
James, Russell W.	4	M. E.	Fort Collins
Jans, Fred C.	2	A.	Fort Collins
Jefferson, Calara L.	2	H. E.	Canon City
Johnson, Edna B.	2	H. E.	Holyoke
Johnson, Edwin C.	4	M. E.	Denver
Johnson, Elmer A.	1	Eng.	Pueblo
Johnson, Leonard	1	A.	Longmont
Jones, Evelyn	4	H. E.	Denver
Jones, Florence G.	4	H. E.	Fort Collins
Jones, Mary A.	1	H. E.	Fort Collins
Keagle, Grace	1	H. E.	Red Cloud, Neb.
Keating, Verne E.	1	A.	Denver
Keirsey, Harold B.	2	Eng.	Fort Collins
Kemp, Ward S.	3	An. H.	Denver
Ketcham, Arthur C.	1	A.	Denver
Kimball, Frank	4	C. E.	Dennison, Texas
Kinney, Helen	3	H. E.	Fort Collins
Kirk, Jane	3	H. E.	Culbertson, Neb.
Klemmedson, Linne D.	4	An. H.	Colorado Springs
Klene, Vivian C.	U.		Fort Collins
Knapp, Forrest L.	1	Eng.	Fort Collins
Knapp, Frank W.	U.		Fort Collins
Kneale, Dora L.	2	H. E.	Niwot
Kraemer, Elsa T.	1	H. E.	Denver
Kretschmer, John G.	2	A.	Pueblo
Kroll, Arthur A.	2	A.	Gunnison
Lake, Marion B.	4	H. E.	Cheyenne Wells
Landers, Sigmund F.	3	Ent.	Loveland
Large, Wayne	3	E. E.	Denver
Larson, Ahlburn	2	A.	Fort Collins
Larson, Louise S.	U.		Jasper, Minn.
Lascelles, Harold R.	U.		West Orange. N. Y.
Lasley, Ross A.	1	A.	Mt. Morrison
Law, Mable	1	H. E.	Fort Collins
Lawson, May V.	2	H. E.	Louisville
Lawver, Gertrude W.	2	H. E.	Denver
Leach, Katherine	2	H. E.	Denver
Leiby, Edward D.	2	Vet.	Fort Collins
Leiper, Mrs. Jennie	4	H. E.	Fort Collins
Lessing, Karl	1	Eng.	Denver
Lewis, Grace C.	1	H. E.	Canon City
Lewis, Marjorie	2	H. E.	Trinidad
Loeffler, Wilfred J.	1	Eng.	Pueblo
Loud, William B.	3	For.	Colorado Springs
Lovett, Ruth	1	H. E.	Fort Collins
Lucas, Lee H.	U.		Denver
Luce, Hildred	U.		Windsor
Lungren, Ernest A.	1	A.	Denver
Lynch, Phillip A.	2	A.	Denver
Lyngar, Dorothy	1	H. E.	La Junta
Macklin, John L.	2	A.	Burns, Kansas

Name	Year	Course	Address
Maier, Fred	4	Agro.	Longmont
Mann, Doris C.	3	H. E.	Denver
Maris, Rita	2	H. E.	Fort Morgan
Martin, Dorothy F.	3	H. E.	Denver
Martin, Sarah M.	1	H. E.	Fort Morgan
Mason, Laura S.	4	H. E.	Greeley
Mathews, Harry V.	4	C. E.	Paonia
Maxwell, Ralph D.	2	A.	Fort Collins
May, William L.	4	For.	Fort Collins
Means, Truman I.	2	Vet.	Salida
Means, Pearl	3	H. E.	Salida
Melvin, Hugh	1	A.	Billings, Mont.
Mendenhall, Floyd F.	2	Vet.	Granada
Merrill, Thomas R.	U.		Brighton
Metz, Margaret E.	1	H. E.	Colorado Springs
Michel, Paul	3	Agro.	Adena
Miks, Mona L.	3	H. E.	Denver
Miles, Halbert T.	4	An. H.	Denver
Miller, Mrs. Effie	U.		Fort Collins
Miller, Mrs. Laura	4	H. E.	Fort Collins
Miller, Raymond H.	3	An. H.	Fort Collins
Miner, Bernard	4	C. E.	Fort Collins
Miner, Sterling	4	Argo.	Fort Collins
Moniger, Marjorie	1	H. E.	Fort Collins
Moore, Alice	2	H. E.	Denver
Morgan, Edna E.	1	H. E.	Undercliff
Morgan, Lila F.	2	H. E.	Palisade
Moorhead, Ralph B.	1	A.	Wheatridge
Moorhead, Myron Ray	2	Eng.	Wheatridge
Morrison, J. Ardella	3	H. E.	Fort Collins
Mott, Maxwell R.	U.		Graybull, Wyo.
Murray, Bessie	1	H. E.	Denver
Mussey, William Osgood	2	A.	Denver
McCain, Edith	2	H. E.	Delta
McCallister, Jack	4	For.	Central City
McClave, Florence	1	H. E.	McClave
McCrimmon, George E.	1	A.	Denver
McCrum, Gertrude	4	H. E.	Denver
McHugh, Jerome	2	Eng.	Fort Collins
McIntosh, Charles Donald	1	Eng.	Fort Collins
McKelvey, Macy	U.		Greeley
McLachlan, Alma	1	H. E.	Craig
McLain, Charles W.	2	A.	Denver
McMillen, Raymond M.	2	A.	Lamar
McMullin, Gail	1	H. E.	Olathe
McMurry, Leland B.	1	H. E.	Fort Collins
Nebeker, Irvine	2	Vet.	Fort Collins
Nelson, Ralph E.	1	Vet.	Fort Collins
Nelson, Monroe	4	Vet.	Fort Collins
Nesbit, John G.	4	C. E.	Canon City
Netherton, Crystal	3	H. E.	Fort Collins
Newell, Dora	U.		Berthoud
Newlander, Ernest	3	An. H.	Denver
Newton, John Harry	4	Ent. and Hort	Tempe, Ariz.
Nicholson, William D.	1	A.	Leadville
Nye, Bill C.	U.		Rigby, Idaho

Name	Year	Course	Address
Odom, Lillian	2	H. E.	Delta
Odom, Mable	1	H. E.	Delta
Oldmeyer, Clarence	2	An. H.	Brush
Oliver, James M	U.		Corning, Ark.
Onrubia, Apolonio	U.		Manila, P. I.
Osborn, John M	1	A.	Fort Collins
Osborn, Lester L	3	An. H.	Fort Collins
Palmer, Russell	4	E. E.	Steamboat Springs
Park, Harriette	2	H. E.	Wetmore
Parker, Harry S	4	An. H.	Denver
Parks, Mary E	1	H. E.	Pueblo
Paxton, Glenn E	4	Agro.	Fort Collins
Payson, Mildred A	1	H. E.	Fort Collins
Peasley, J. Paul	2	A.	Fort Collins
Pendergast, T. Irving	1	Eng.	Fort Collins
Pendergast, Margaret	2	H. E.	Fort Collins
Perkins, Olive E	2	H. E.	Kremmling
Petty, Henrietta	2	H. E.	Fort Collins
Pilz, Bernard O	3	M. E.	Georgetown
Plumb, Margaret L	3	H. E.	Greeley
Poliak, Meyer	2	A.	Trinidad
Port, Romaine	3	H. E.	Denver
Porter, Fay	4	H. E.	Pueblo
Potter, Maude	U.		Winona, Minn.
Powers, Laura	1	H. E.	Torrington, Wyo.
Proctor, Ruth	4	H. E.	Loveland
Quinlan, Leon R	4	Hort.	Olathe
Randolph, Hazel B	2	H. E.	Fort Collins
Randolph, Percy L	4	An. H.	Fort Collins
Ratekin, Roy E	1	Eng.	Cedaredge
Ray, Frank A	2	A.	Lamar
Read, James A	2	Vet.	Denver
Reuter, Bessie	1	H. E.	Aspen
Rewalt, Alice	4	G. S.	Ouray
Rhoades, James L	2	Eng.	Kit Carson
Richards, Russell C	4	E. E.	Littleton
Roberts, Paul J	1	Eng.	Drake
Robinson, Gale	4	H. E.	Denver
Robinson, Le Ella	1	H. E.	Big Cabin, Okla.
Robinson, James Russell	2	Eng.	Fort Collins
Robinson, George	U.		Fort Collins
Roe, Velma V	1	H. E.	Palisade
Romick, Edna	2	H. E.	Denver
Rosenburg, Claude B	1	Eng.	Fort Collins
Rosenthal, Arthur H	3	An. H.	Denver
Ross, W. Arthur	4	An. H.	Fort Collins
Ross, William R	1	Eng.	Fort Collins
Rudolph, Talbot	2	A.	Denver
Ryer, Mary C	2	H. E.	Denver
Sackett, Mrs. Margaret F	U.		Fort Collins
Sanborn, Neal D	1	A.	Longmont
Sandusky, Leah	3	H. E.	Salida
Sanford, Mrs. May F	U.		Pueblo
Sauer, Charles C	2	Eng.	Fort Collins
Sauer, Conrad Wm	1	A.	Fort Collins

Name	Year	Course	Address
Schaefer, Irving O.	2	A.	Denver
Schiele, Lewis F.	3	An. H.	Denver
Schillig, Edna	3	H. E.	Greeley
Schrepferman, Alvin J.	1	A.	Denver
Schofield, Mary F.	4	G. S.	Buena Park, Calif.
Schumacher, Walter	1	Vet.	Durango
Schilley, Charlotte L.	3	H. E.	Loveland
Secrest, Fred G.	3	An. H.	Arvada
Sellers, Marie	1	H. E.	Boulder
Shahan, Maurice S.	2	A.	Alamosa
Shaulis, Marvel M.	1	H. E.	Powell, Wyo
Sheeley, Arthur C.	1	Eng.	Denver
Sheely, James R.	U.		Fort Collins
Shepardson, Margaret C.	U.		Fort Collins
Shepardson, Mrs. Nellie	3	H. E.	Fort Collins
Shockey, William H.	1	Vet.	Cripple Creek
Shultis, Mary H.	2	H. E.	Ouray
Simpson, Ina E.	4	H. E.	Fort Collins
Simpson, Lloyd L.	4	An. H.	Fort Collins
Simpson, Vernon E.	4	H. E.	Grand Junction
Slater, Merrill	2	A.	Nederland
Slockett, Bernice T.	2	H. E.	Fort Collins
Slockett, Esther C.	3	H. E.	Fort Collins
Slocum, Arthur	2	Vet.	Haswell
Slocum, Flora	2	H. E.	Haswell
Small, Jeannette	1	H. E.	Denver
Smith, Fred M.	2	Eng.	Sterling
Smith, Genevieve	1	H. E.	Fort Collins
Smith, Harvey E.	4	Vet.	Arvada
Smith, Hugh B.	3	Agro.	Castle Rock
Smith, Leonard S.	4	Vet.	Grand Junction
Smith, Nellie	1	H. E.	Castle Rock
Snyder, Thomas J.	1	A.	Dove Creek
Snyer, Joe	1	Eng.	Whitewater
Solt, Leland	2	A.	Boulder
Spangler, William E.	4	An. H.	Denver
Spidel, George	3	An. H.	Fort Collins
Spidel, Mrs. Marian	U.		Fort Collins
Sprague, Rachel A.	2	H. E.	Littleton
Spratlin, Maceo E.	4	Vet.	Denver
Stallings, William A.	4	E. E.	Fort Collins
Stanton, Mary J.	2	H. E.	Pueblo
Steidley, Lyman H.	1	A.	Fort Collins
Sternberg, Morris	2	A.	Denver
Stitt, Gladys	3	H. E.	Fort Morgan
Stocker, Charles W.	1	A.	Delta
Stong, Audre L.	1	A.	Grand Junction
Strachan, Ida	4	H. E.	Fort Collins
Stratton, Walter S.	3	An. H.	Hillrose
Stratton, Rosemary	U.		Boulder
Strohm, William E.	2	Eng.	Denver
Strong, Veda	3	H. E.	Boise City, Okla.
Stuart, James E.	2	A.	Alamosa
Sullivan, Frank M.	U.		Durango
Swadley, George L.	1	A.	Arvada
Swartz, Helen M. M.	1	H. E.	Denver
Sweet, Walden E.	U.		Carbondale
Sweitzer, Paul	2	A.	Delta

Name	Year	Course	Address
Swett, Laura	U.		Fort Collins
Swisher, Paul W	1	A.	Hotchkiss
Tanner, Orra M	2	H. E.	Denver
Taylor, Ella M	1	H. E.	Goldfield
Taylor, Harvey M.	1	A.	Farmington, N. M.
Taylor, Walter	1	A.	Pueblo
Thompson, Mary E	U.		Montrose
Thompson, Lester A	1	Vet.	Fort Collins
Thomson, Virginia	4	G. S.	Platteville
Thornton, Bruce J	4	An. H.	Loveland
Thornton, Gladys F.	U.		Thermopolis, Wyo.
Tompkins, C. Milton	1	A.	Newark, N. J.
Torrey, John E	1	A.	Olathe
Townsend, Morris D	1	A.	Pueblo
Tudor, Alven O.	U.		Liberty
Valenzuela, John	1	A.	Santiago, Chile
Van Brimer, Bessie	3	H. E.	Pueblo
Van Deren, Coe L	1	A.	Paonia
Vanderwark, Edith A	1	H. E.	Fort Collins
Vaplon, Lawrence H	4	Agro.	Fort Collins
Vaughan, Frederic T	1	A.	Denver
Vaughn, Howard E	2	A.	Colorado Springs
Veverka, Marie	U.		Sterling
Vondy, Vernon B	2	A.	Brush
Wadleigh, Herbert C	2	Vet.	La Junta
Waggener, Luella A.	U.		Berthoud
Walker, Harry C	2	Eng.	Goldfield
Ward, Ethelbert	U.		Denver
Warren, Lydia	3	H. E.	Adair, Okla.
Weathers, Leland C	1	Eng.	Gothenburg, Nebr.
Wells, Allan S	1	A.	Pueblo
Wells, Charles E	4	E. E.	Wheatridge
Welty, John	4	Vet.	Boulder
Whatley, Earl	2	Vet.	Fort Collins
Wiggins, Chester N.	1	A.	Montrose
Wilkins, Everett D	1	A.	Ault
Wilkins, LaFaun	2	H. E.	Loveland
Williams, Amy	3	H. E.	Payette, Idaho
Williams, Edith	3	H. E.	Walsen
Williams, Jay T	3	C. E.	Denver
Williams, Lucille E	3	H. E.	Pueblo
Williams, Ruth	4	H. E.	Boulder
Wilson, John	1	A.	Denver
Willson, Gardner	U.		Fort Collins
Winburn, Beulah	4	H. E.	Fort Collins
Wonders, William	3	Agro.	Delta
Wood, Claude	1	Eng.	Fort Collins
Woodhams, Ramoma	3	H. E.	Grover
Woolen, Vergil W	1	Vet.	Paonia
Worthington, Robert P	2	A.	Denver
Yarling, Harold	1	A.	Shelbyville, Ind.
Yetter, William P	4	Ent.	Denver
Yoder, Helen	1	H. E.	Fort Collins
Young, Albert	2	Vet.	Olathe

CONSERVATORY

Name	Address
Agee, Alma	Loveland
Akin, Grace	Fort Collins
Akin, Phebe	Fort Collins
Alcorn, Ruth	Fort Collins
Alexander, Zenada	Fort Collins
Alpert, Helen	Fort Collins
Anderson, Dorothy	Meeker
Anderson, Julia	Fort Collins
Anderson, Ruby	Kit Carson
Anderson, Ruth	New Wattenberg
Arnold, Lutie	Fort Collins
Axton, Marguerite	Rockport, Indiana
Baker, Charlotte	Fort Collins
Baker, Edith	Fort Collins
Ball, Alice	Fort Collins
Ball, Georgia	Fort Collins
Bangs, Miriam	Denver
Bay, Mabel	Fort Collins
Beck, Myol Emil	Ault
Beebe, Morna	Fort Collins
Blunk, Ruth	Fort Collins
Bottoms, Harley	Boulder
Bowman, Louise	Fort Collins
Brooks, Josephine	Fort Collins
Brown, Floyd	Littleton
Brunstein, Harry	Fort Collins
Brunstein, Lillian	Fort Collins
Brunstein, Rose	Fort Collins
Butcher, Mary	Laporte
Butler, Margie	Fort Collins
Carpenter, Helen	Loveland
Casady, Ida	Fort Collins
Clammer, Paul	Fort Collins
Conners, George	Fort Collins
Conners, Helen	Fort Collins
Cook, Elizabeth	Peyton
Cosgrove, Eugene	Calgary, Canada
Coudray, Esther	Meeker
Coewe, Alverda	Deer Trail
Crain, Ena	Cheyenne, Wyo.
Cyphers, Raymond	Manderson, Wyo.
Daley, Lyra	Sterling
Deffenbaugh, Vestal	Fort Collins
Deighton, Herbert	Meeker
Demaray, Ruth	Holly
Dickey, Donald	Windsor
Dickinson, Rodney	Fort Collins
Dietrich, Bertha	Kremmling
Dunlap, Nona	Fort Collins
Edgar, Mildred	Ordway
Edwards, Jennie	Fort Collins
Emigh, Allene	Walden
Erickson, Ruth	Ouray
Evans, Dorothy	Fort Collins

Name	**Address**
Farrar, Alice	Laramie, Wyo.
Foltz, Lucille	Fort Collins
Foote, Edna	Loveland
Fountain, Pearl	Alamosa
Frank, Ralph	Fort Collins
French, Carrie	Fort Collins
French, Mrs. R. W.	Fort Collins
Freeman, Lorraine	Alamosa
Gevrez, Opal	Loveland
Ghrist, Bernice	Grover
Godard, Gertrude	Woodrow
Goellert, Emma	Colby, Kansas
Graham, Elizabeth	Walden
Halferty, Florence	Center
Ham, Amy	Hasty
Ham, Inez	Hasty
Hartman, John	Fort Collins
Hiner, Bessie	Fort Collins
Hiner, Mildred	Fort Collins
Hoddle, Mabel	Denver
Hughes, Lotta Belle	Eaton
Hunter, Bertha	Cowdrey
James, Clarence	Lamar
James, Lucile	Fort Collins
Johnson, Edith	Manderson, Wyo.
Jones, Anna Lura	Berthoud
Jones, Gladys	Fort Collins
Jones, Josephine	Berthoud
Kempton, Helen	Loveland
Kermode, Dorothy	Walden
Kilburn, Miriam	Fort Collins
Kimmons, Helen	Fort Collins
King, Agnes	Hooper
King, Gayle	Fort Collins
King, Pearl	Fort Collins
Kirk, Jane	Culbertson, Nebraska
Kitley, Ruth	Longmont
Krieger, Florence	Fort Collins
Lake, Marion	Cheyenne Wells
Lamb, Kate	Fort Collins
Lamb, Mary	Fort Collins
Larson, Faith	Fort Collins
Lawrence, Gwendolyn	Fort Collins
Leonard, Ella	Scotts Bluff, Nebr.
Littlefield, John	Fort Collins
Lory, Earl	Fort Collins
Lory, Marion	Fort Collins
Luce, Hildred	Windsor
McCoy, Crystal	Fort Collins
McCleary, Anna	Mesita
McElray, Mildred	Fort Collins
MacFarlane, Inez	Fort Collins
MacFarlane, Ruth	Fort Collins
McKillop, Katie	Boulder

Name	Address
McMurry, Leland	Fort Collins
Mauzey, Goldie	Fort Collins
Mauzey, Preston	Fort Collins
Mayer, Marjorie	Fort Collins
Means, Rhoda Pearl	Salida
Means, Truman	Salida
Miller, Lois	Fort Collins
Milliken, Wm.	Yankton, S. Dakota
Mitchell, Mildred	Hanna, Wyo.
Morford, Coe	Fort Collins
Moinat, Arthur	Fort Collins
Morrill, Miner	Fort Collins
Moore, Orville	Loveland
Murphy, Pat	Fort Collins
Nelson, Lucille	Fort Collins
Newell, Dora	Berthoud
Northup, Orville	New Raymer
O'Hagan, Anna	Ideal
O'Mara, Francis	Denver
Parker, Ruth	Fort Collins
Patterson, Roy	Fort Collins
Peasley, Ella	Fort Collins
Peasley, Ruth	Fort Collins
Pettibone, Lona	Fort Collins
Pomranka, Anna	Loveland
Quick, Sue	Fort Collins
Reingold, Sarah	Fort Collins
Reingold, Willy	Fort Collins
Rigdon, Opal	Laporte
Roberts, Helen	Windsor
Robinson, Le Ella	Big Cabin, Okla.
Robinson, Russell	Fort Collins
Rohling, Lois	Fort Collins
Rosenberg, Gladys	Fort Collins
Royer, Rowena	Greeley
Russell, Atta Belle	Loveland
Russell, Frampton	Loveland
Salyers, Eva	Fort Collins
Sargent, Helen	Fort Collins
Scott, Cameron	Emerson, Iowa
Selters, Anna	Monte Vista
Seward, Marie	Chico, New Mexico
Shaulis, Marvel	Cornell, Wyo.
Shepardson, Marcia	Fort Collins
Shields, Harry	Fort Collins
Simonson, Metta	Fort Collins
Sitler, Ruth	Newton, Iowa
Smith, Norma	Fort Collins
Smith, Catharine	Fort Collins
Snyder, Thomas	Fort Collins
Speck, Dannie	Cove Creek
Springer, Avice	Torrington, Wyo.
Stewart, Sibyl	Fort Collins

Name	**Address**
Tarr, Erma	Fort Collins
Taylor, Anna	Texas Creek
Taylor, Gertrude	Windsor
Thompson, Mary	Montrose
Thompson, R. E.	Fort Collins
Vaplon, Esther	Fort Collins
Wadleigh, Herbert	La Junta
Watkins, Elizabeth	Difficulty, Wyo.
Watkins, Hazel	Difficulty, Wyo.
Wheaton, Esther	Greeley
Wherren, Hazel	Greeley
Willox, Catherine	Fort Collins
Williams, Beth	Fort Collins
Wilkin, Ruth	Laporte
Wilson, John	Denver
Winburn, Beulah	Fort Collins
Wylie, Mable	Fort Collins

SUMMARY

College students—		
Seniors	83	
Juniors	82	
Sophomores	121	
Freshmen	163	
Unclassified	55	
Total		**504**
School of Agriculture, Mechanic and Household Arts—		
Fourth Year	13	
Third Year	39	
Second Year	88	
First Year	212	
Total		**352**
Conservatory of Music	178	
Farmers' and Housekeepers' Short Course	221	
Total		**399**
		1,255
Twice counted		**57**
Total on Campus		**1,198**
Agricultural Extension Service		**69,837**
Grand Total		**71,035**

Colorado State Institutions of Higher Learning

The University of Colorado	*Boulder, Colorado*

Livingston Farrand, President
George Norlin, Acting President

The School of Mines	*Golden, Colorado*

Victor C. Alderson, President

The State Teachers College	*Greeley, Colorado*

J. G. Crabbe, President

The State Normal School	*Gunnison, Colorado*

J. H. Kelley, President

The State Agricultural College	*Fort Collins, Colorado*

Chas. A. Lory, President

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